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Language learner engagement in asynchronous discussion forums: an exploratory study

Jacqueline Robbins

Universitat Autònoma de Barcelona

Doctoral Thesis

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Doctoral candidate: Jacqueline Robbins

Departament de Didàctica de la Llengua i la Literatura i de les Ciències Socials

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Directors: Dr Dolors Masats and Dr Eulàlia Canals

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In loving memory of my mum.

“As we learn about each other, so we learn about ourselves.”

The Doctor

Abstract

This thesis explores engagement of language learners in asynchronous discussion forums which are used as part of a fully online English language learning course for adults at the Universitat Oberta de Catalunya. Learner engagement is not a new area of research in education but it is only quite recently that online language learner engagement has been the focus of study. There is a solid theoretical background in the area of learner engagement (Fredricks, Blumenfeld and Paris, 2004; Kahu, 2013; Schindler, Burkholder, Morad and Marsh, 2017) and it is generally agreed to consist of three dimensions: behavioural, cognitive and emotional engagement. Behavioural engagement refers to learners' participation and involvement as they carry out the pedagogical task at hand, cognitive engagement involves what and how learners learn, and emotional engagement considers learners' emotional connection to their learning. Research has mainly focused on the behavioural dimension and where the emotional dimension is addressed, methods have varied considerably and the primary source of data has tended to be student questionnaires (Dixson, 2010; Nakazawa, 2009; Young and Bruce, 2011), which means that findings are focused on those learners who are highly engaged and do not take into consideration the rest. Where cognitive engagement is included in research, approaches have focused on self-regulation and the use of learning strategies (Fredricks et al., 2004), with the objective of understanding learners' motivation to learn, persistence to achieve learning objectives and deep processing of information (Schindler et al., 2017). In such contexts learning gains are measured in terms of grades (Dixson, 2010). In this study, we observe these three dimensions of engagement in two groups of learners as they carry out three writing tasks in asynchronous discussion forums. Our objective is to provide some insight into how learners engage with the tasks and with one another. To achieve this, we carry out three case studies; the first analyses two separate groups of learners working with the same teacher while they carry out a course warm-up task; the second case study analyses the engagement of one of the two groups of learners from the first case study across three tasks; and the final case study narrows the focus further by analysing the engagement of three learners from the group in the second case study across the three tasks. We adopt a specific method for each dimension of learner engagement. For behavioural engagement, we analyse participation and interaction quantitatively by measuring post rates, word counts, post reading activity, forum threading characteristics and the number of interactions. For cognitive engagement, we track how individual learners' marks change from the start to the end of the course and in the final case study, we analyse and compare three learners' posts in terms of their complexity, accuracy and fluency. For emotional engagement, we carry out quantitative content analysis of posts in terms of social presence. The main findings of the study indicate that the three dimensions of learner engagement are inter-related and therefore should not

be studied separately as has traditionally been done. We conclude that higher rates of participation and interaction tend to correspond to learners whose marks improve or at least stay the same over the course. The contributions of the learners in these two groups also show higher levels of indicators of social presence, particularly in the early stages of the course.

Resum

Aquesta tesi explora la implicació (*engagement*) d'estudiants d'idiomes en fòrums de discussió asíncrons que formen part d'un curs d'aprenentatge de l'anglès en línia per a adults a la Universitat Oberta de Catalunya. La implicació dels estudiants a l'aula no és una àrea nova de recerca en educació, però fa ben poc que s'estudia. Hi ha antecedents teòrics en l'àmbit de la implicació dels aprenents (Fredricks, Blumenfeld i París, 2004; Kahu, 2013; Schindler, Burkholder, Morad i Marsh, 2017) que confirmen que consta de tres dimensions: el compromís actitudinal, el compromís cognitiu i el compromís emocional. El compromís actitudinal es refereix a les accions que duen a terme els aprenents per tal de participar en les tasques que se'ls proposen, el compromís cognitiu té a veure amb què és allò que s'aprèn i es fa i el compromís emocional considera la connexió emocional dels aprenents amb el seu aprenentatge. La recerca en aquest camp s'ha centrat principalment en la dimensió conductual. Els estudis que han abordat la dimensió emocional ho han fet emprant una gran varietat de mètodes, els quals, majoritàriament, han emprat qüestionaris adreçats als estudiants (Dixson, 2010; Nakazawa, 2009; Young i Bruce, 2011) com a font principal de dades, això implica que les conclusions que s'han obtingut es basen en les respostes d'aquells estudiants que estan molt compromesos i no en la resta. La recerca entorn el compromís cognitiu s'ha centrat en l'estudi de l'autoregulació i en l'ús d'estratègies d'aprenentatge (Fredricks et al., 2004), i han focalitzat la motivació dels aprenents per aprendre, la seva persistència per assolir els objectius d'aprenentatge i el processament crític de la informació (Schindler et al., 2017) o volgut assenyalar les millores en l'aprenentatge mesurats en termes de notes (Dixson, 2010). En aquest estudi, analitzem les tres dimensions de la implicació de dos grups d'estudiants d'anglès que duen a terme tres tasques d'escriptura en fòrums de discussió asíncrons. Ens plantegem l'objectiu d'explorar com els estudiants interaccionen amb les tasques i entre ells. Per aconseguir-ho, duem a terme tres estudis de casos; el primer estudi analitza dos grups d'aprenents que treballen amb el mateix professor per realitzar la tasca d'escalfament (*warm-up*) del curs; el segon estudi de cas analitza la participació d'un dels grups d'aprenents del primer estudi de cas en tres tasques; i el darrer estudi del cas redueix i analitza el compromís de tres aprenents del grup del segon estudi de cas, també a través de les tres tasques d'escriptura. Adoptem un mètode específic per a l'estudi de cada dimensió del compromís dels estudiants. Per analysitzar el compromís actitudinal, analitzem la participació i la interacció, per estudiar el compromís cognitiu, fem un seguiment de com canvien les notes de cadascun dels aprenents des del principi fins al final del curs i, en el darrer estudi de cas, també analitzem la complexitat, la precisió i la fluïdesa en les contribucions de les tres estudiants seleccionades. Per observar el compromís emocional dels aprenents, realitzem una anàlisi quantitativa dels continguts de les seves contribucions per tal de cercar indicadors de presència

social. El nostre estudi demostra que les tres dimensions del compromís de l'alumne estan interrelacionades. Les nostres conclusions posen de relleu que els índexs més alts de participació i interacció solen correspondre als estudiants que han millorat les seves qualificacions o, com a mínim, els que les han mantingut estables al llarg del curs. Les contribucions d'aquests dos grups d'estudiants també mostren nivells més elevats d'indicadors de presència social, principalment en les primeres etapes del curs.

Resumen

Esta tesis explora la implicación (*engagement*) de estudiantes de idiomas en foros de discusión asíncronos que forman parte de un curso de inglés en línea para adultos en la Universitat Oberta de Catalunya. La implicación de los estudiantes en el aula no es un área nueva de investigación en educación, pero hace poco que se estudia. Hay antecedentes teóricos en el ámbito de la implicación de los aprendices (Fredrick, Blumenfeld y París, 2004; Kahu, 2013; Schindler, Burkholder, Morad y Marsh, 2017) que confirman que consta de tres dimensiones: el compromiso actitudinal, el cognitivo y el emocional. El compromiso actitudinal se refiere a las acciones que los aprendices llevan a cabo para participar en las tareas propuestas, el compromiso cognitivo tiene que ver con qué es lo que aprenden y hacen, y el compromiso emocional considera la conexión emocional de los aprendices con su aprendizaje. La investigación en este campo se ha centrado principalmente en la dimensión conductual. Los estudios que han abordado la dimensión emocional lo han hecho utilizando una gran variedad de métodos que, en su mayoría, han empleado cuestionarios dirigidos a los estudiantes (Dixson, 2010; Nakazawa, 2009; Young y Bruce, 2011) como fuente principal de datos. Esto implica que las conclusiones obtenidas se basan en las respuestas de los estudiantes que están muy comprometidos y no en el resto. La investigación en torno al compromiso cognitivo se ha centrado en el estudio de la autorregulación y en el uso de estrategias de aprendizaje (Fredrick et al., 2004), con el objetivo de investigar la motivación de los aprendices para aprender, su persistencia para alcanzar los objetivos de aprendizaje y el procesamiento crítico de la información (Schindler et al., 2017) o han querido señalar las mejoras en el aprendizaje medidos en términos de calificaciones (Dixson, 2010). En este estudio, analizamos las tres dimensiones de la implicación de dos grupos de estudiantes de inglés que llevan a cabo tres tareas de escritura en foros de discusión asíncronos. Nos planteamos el objetivo de explorar cómo los estudiantes interaccionan con las tareas y entre ellos. Para ello, llevamos a cabo tres estudios de casos; el primer estudio analiza dos grupos de aprendices que trabajan con el mismo profesor para realizar la tarea de introducción (*warm-up*) del curso; el segundo estudio de caso analiza la participación de uno de los grupos de aprendices del primer estudio de caso en tres tareas; y el último estudio del caso reduce y analiza el compromiso de tres aprendices del grupo del segundo estudio de caso, también a través de las tres tareas de escritura. Adoptamos un método específico para estudiar cada dimensión del compromiso de los estudiantes. Para el compromiso actitudinal, analizamos la participación y la interacción, para el compromiso cognitivo, hacemos un seguimiento de cómo cambian las notas de cada uno de los aprendices desde el principio hasta el final del curso y, en el último estudio de caso, también analizamos la complejidad, la precisión y la fluidez en las contribuciones de las tres estudiantes seleccionadas. Para observar el compromiso emocional de los aprendices, realizamos un análisis cuantitativo de los

contenidos de sus contribuciones para buscar indicadores de presencia social. Nuestro estudio demuestra que las tres dimensiones del compromiso del alumno están interrelacionadas. Nuestras conclusiones ponen de relieve que los índices más altos de participación e interacción suelen corresponder a los estudiantes que han mejorado sus calificaciones o, como mínimo, los que las han mantenido estables a lo largo del curso. Las contribuciones de estos dos grupos de estudiantes también muestran niveles más elevados de indicadores de presencia social, principalmente en las primeras etapas del curso.

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To all of the (language) learners and teachers out there. As a "mature" student of 53, I can honestly say I learned something today, yesterday, the day before that, *ad infinitum* and I hope to keep doing that. Keep believing in your dreams, whatever they are!

"Teaching is only demonstrating that it is possible. Learning is making it possible for yourself."

Paulo Coelho

Foreword

I have been teaching English as a foreign language (EFL) for 25 years and moved online 15 years ago to begin working at the Universitat Oberta de Catalunya (UOC). Initially, I worked at the UOC as a part-time classroom teacher on several different levels of EFL courses but 10 years ago, I accepted my current full-time post as an English language coordinator. My job consists of designing and managing the B2.1 English course, one of the transversal subjects that all degree students at the UOC take and as a result of this, it has grown considerably and is currently one of the largest subjects at the institution. The role of subject coordinator involves course and task design and the coordination and support of English teachers in their day to day work. A significant part of this job involves observing teachers and learners as they work on course tasks and this led me to feel that we needed a deeper understanding and appreciation of what teachers and learners do during the learning process, and why some teachers and learners seem to adapt better than others to an online context. Bearing in mind that in the context focused on in this study, the vast majority of communication between learners and between learners and the teacher is asynchronous, and mainly in writing, I have always been interested in understanding how well learners *engage* with the tasks, the course and with their peers and the impact this has on their language development. The present research is the realisation of my efforts to explore learner engagement in online language learning contexts, partly to help me and my colleagues in our work, but also to help online teachers maximise the learning experience of their learners.

The word cloud used on the front cover and also in Figures 107 and 108 was created using the free online tool WordArt. The content for the word cloud comes from the key words in the articles upon which my thesis is based.

"Caminante, no hay camino, se hace camino al andar." Antonio Machado

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Chapter 1 Introduction

Learner engagement, particularly in online learning contexts, is a research area that needs to be explored in greater depth to understand the relationship between learner's behavioural, emotional and cognitive engagement and language development in language courses. This kind of knowledge will offer teachers and students alike hints on how to make the most of the teaching/learning process. In this introductory chapter, we begin by establishing the relevance of the present research. We then provide an overview of the structure of the thesis.

1.1 Relevance of the Study

The increasing need for language proficiency and the global growth in access to communication devices and the Internet have contributed to the proliferation and variety of online language courses available. Technological changes over the last decade mainly concern ever faster internet connections and an increasingly higher number of Internet users. Statista (2020) reports as of April 2020 that 59% of the world's population were active Internet users. As a result of wider access and faster connection speeds, there has been a shift towards using technologies not only for communication, both synchronously and asynchronously, but also as learning tools, which has had a natural impact on language learning pedagogy. In this sense, the incorporation of technology is becoming essential in language education, and, as Thorne (2016) acknowledges:

> second and foreign language researchers and educators have long recognized the potential of digital technologies to provide access to input, practice, and rehearsal (audio recordings, video, tutorials, drills, mini games), to amplify possibilities for meaningful and creative expression (text and media processing), to extend existing and create new opportunities for interpersonal communication (synchronous and asynchronous messaging, online intercultural exchange), to collaborate in (often) linguistically rich multiparty interaction in the 'wild' (i.e., naturally occurring and non-institutionally located online environments and communities), and to construct relevant presentations of self in digital media environments. (Thorne, 2016, p.241)

However, despite this impressive potential, Thorne (2016) makes the critical point that after more than thirty years of research into the field of language learning with technology, technologies are still often used to replicate traditional pedagogical approaches, rather than truly exploiting the affordances available. In this sense, Dooly and Masats (2011) and Masats and Dooly (2011a) propose that technology should be embedded into the process of language teaching instead of simply being an add-on to existing courses. In a similar vein, Baumgartner (2015) reports on the implementation of a hybrid course for German-as-a-foreign-language and points out that the negative experience of moving a portion of her course online is partly due to the major impact it had on his (the teacher) workload, which would seem

to indicate a critical issue for implementing technology in education: that of sustainability. This is often referred to as the “course and a half syndrome”, which Baumgartner (2015) argues online courses need to avoid, as previously discussed by Kaleta, Garnham, and Aycock (2005) and Gerard, Gerard, and Casile (2009). On a more positive note, in their review into Web 2.0 and second language learning, Wang and Vásquez (2012) surmise that SLA has undergone a paradigm shift from cognition based theories to social learning theories, from an acquisition metaphor to one of participation, and from L2 learning to L2 use. The writers suggest that this shift has occurred alongside the changes in Web 2.0 technological functionalities such as participation, communication, data sharing and collaboration and according to Wang and Vásquez (2012, p. 413), citing Sykes, Oskoz, and Thorne (2008) and Warschauer and Grimes (2007), “Web 2.0 technology in many L2 learning contexts has transformed pedagogy, curriculum design, the conception of language learning, and even the research in this field”. Similarly, Masats, Dooly and Costa (2009, p. 341) suggest that “the use of technology in the classroom transforms instruction as it is usually associated with learner centred teaching approaches which promote collaborative learning”.

The flexibility offered by online courses, both in terms of physical and temporal presence, is a strong motivation for learners to sign up, and it seems likely that they will remain a permanent fixture in education. However, there are two main challenges online course providers need to address if they are to be successful. Firstly, online courses can suffer from lower levels of student persistence unless students "feel connected with course, its instructor and fellow classmates" (Herbert, 2006, p. 3) and secondly, online courses need to be sustainable in terms of the teachers’ workload. Bearing these two issues in mind, in this study, we analyse observable learner behaviour from the perspective of learner engagement, based on the premise that if learners are engaged in their learning, they are likely to be more successful, with obvious benefits for educational institutions (Bawa, 2016; Dixson, 2010; Kahu, 2013). For teachers in a fully online context such as the one included in this research, who never meet their students face-to-face, and may not be in a position to understand their students’ motivations for taking their course, relying on and acting upon learner behaviour which is observable in the online classroom is essential. Getting a feel for the level of their students’ engagement is challenging in a face-to-face context, but in an online learning context, where only virtual classroom behaviour can be observed, we need to provide teachers with as much help as possible by interpreting what different types of behaviour may mean in terms of how engaged learners are. We hope that this research helps to provide some insight into how learners engage in writing tasks carried out in asynchronous discussion forums used within a formal online language learning context and that this may help teachers support learners through their learning process. With increased understanding of learner engagement in online courses, teachers will be better equipped to foster and sustain engagement among their students.

Learner engagement is not a new area of research in education but it is only quite recently that online language learner engagement has been the focus of study by researchers such as Bond and Bedenlier (2019). There is a solid theoretical background in engagement (Fredricks, Blumenfeld and Paris, 2004; Kahu, 2013; Schindler, Burkholder, Morad and Marsh, 2017) and it is generally agreed to consist of three dimensions: behavioural, cognitive and emotional engagement. However, research methods have varied considerably and the primary source of data has tended to be student questionnaires (Dixson, 2010; Nakazawa, 2009; Young and Bruce, 2011), particularly for understanding learners' emotional connection to their learning experience. While self-reporting by students can be helpful, this approach risks excluding a considerable proportion of learners (Young and Bruce, 2011).

As we will argue in Chapter 3, other studies have included learner observation data to analyse learner participation; however, they tend to be limited to two of the three dimensions of learner engagement, those of behavioural and cognitive engagement. The third dimension of engagement, emotional engagement, has posed more of a challenge and studies which include this dimension tend to rely on learner perspectives, reported through questionnaires. While questionnaire data can clearly be useful for understanding how engaged learners feel, there is the danger of excluding a proportion of learners, particularly those who are less engaged. In the context of the present research, it was not possible to have direct contact with the learners and so this factor, combined with wanting to include less engaged learners in our corpus, led us to search for a solid methodological solution to observe learners' emotional engagement in the classrooms included in the study. To this end, social presence is adopted as a construct through which to analyse learners' emotional engagement.

In addition to making evidence-based suggestions for online language teachers to follow so that they can better support learners in online contexts, we also hope that the results may help course designers and teachers to design tasks which encourage learners to understand how to improve their online presence in educational contexts but also for any other online contexts so that they are as engaged as possible in their academic endeavours. If teachers are more informed about interpreting the way students participate, interact and express their emotional engagement, they will be better equipped to intervene at appropriate moments and provide support both to individual learners, but also to the whole group of learners.

1.2 Outline of the Thesis

The theoretical framework for the present thesis spreads over two chapters. Chapter 2 begins by presenting the evolution of language learning theories and approaches in online contexts before discussing the current state of computer assisted language learning (CALL). In chapter 2, we will also discuss research in three key areas which are relevant for the present research: task-based language teaching, asynchronous discussion forums, and participant roles in online language learning.

In chapter 3, we narrow our focus to two areas of research which are central for the present study: learner engagement and social presence in asynchronous discussion forums. Social presence is a fundamental concept in the area of distance learning and in this study, social presence is adopted as an instrument to analyse learners' emotional engagement in three tasks.

Chapter 4 presents the methodological approaches used in this study. The chapter begins with an explanation of the research objectives and the specific research questions which guided our work. Details about the context are provided, together with information about the participants and the tasks carried out by the learners in their asynchronous discussion forums. The transcripts of the forum discussions constitute the corpus analysed in the thesis. This is followed by an explanation of how the research is comprised of three case studies. In case study 1, we analyse posts of participants in asynchronous discussion forums in two separate virtual classrooms taught by the same teacher. In both classrooms, students are participating in the same course warm-up task. The aim of our analysis is to establish if the participants' level of engagement in this task can predict how successful they will be over the course. In case study 2, the focus narrows to participants in one of the two virtual classrooms in case study 1. We adopt a longitudinal approach in this case study to analyse in greater depth the posts of the learners and their teacher in the warm-up task, but we compare them with the first and the final assessed writing tasks on the course. The aim of the analysis in case study 2 is to take measurements of learner engagement for the three tasks to find out how engagement is manifested by learners with different types of marks progressions over the course. In case study 3, a more detailed analysis provided of how three learners from the group analysed in case study 2 demonstrate engagement. This is followed by an analysis of their forum posts to observe language development, and specifically, to study how these learners' use of language (in terms of grammatical and lexical complexity, accuracy and fluency) changed over the course in the three tasks.

As this research is divided into three case studies, the results and analyses are presented in separate chapters. Chapter 5 presents the results and analyses for case study 1; chapter 6 presents the results and analyses for case study 2; and chapter 7 presents the results and analyses for case study 3. The findings are discussed at the end of each of these chapters. Finally, in chapter 8, we draw together the findings for each of the three case studies and answer our research questions. The final chapter also includes a section on the implications that our findings have for teachers and learners. We conclude the chapter discussing the principal contributions our research makes to the field, the limitations of the present study and we also consider possible areas for future research.

Chapter 2 Online Language Teaching and Learning Practices

Research into online language teaching and learning is a relatively new field of investigation but the rapid proliferation of online learning courses in recent years has led to a corresponding surge in research in this dynamic area of education. Technological advances have impacted both how we teach and learn, as well as how research is carried out. This chapter presents an exploration of the theories and approaches which underpin online language teaching and learning practices today.

2.1 Evolution of Language Learning with Technology

Over the last century, there have been far-reaching changes in language teaching approaches, from grammar-translation to audiolingualism to communicative language teaching, often reflecting the different foreign language skills needed at the time (Richards and Rodgers, 1986). Technology was introduced into language learning in the 1960s, with learners beginning to use computers for automated practice with structures, in line with the behaviourist approaches that were most common at the time. These approaches were based on the premise that all learning, including language, is the result of conditioning, whereby learners receive a stimulus, respond and then have correct responses reinforced with feedback. In terms of the roles of participants in the learning process, the learner was considered to be an empty vessel that through active repetition of structures, could produce the correct language forms, without needing to understand the reasons behind the rules of grammar; on the other hand, the teacher's role was to reward correct answers, punish incorrect ones and be the provider of knowledge. This period is referred to by Warschauer and Healey (1998) as Behaviouristic CALL. The computer was considered to be a mechanical tutor "which never grew tired or judgmental and allowed students to work at an individual pace" (Warschauer and Healey, 1998, p.57), the problem being that teachers did grow tired, were judgmental and did not allow students to work at their own pace. Since that time, there have been significant changes in both the technologies used and instructional practices employed.

Warschauer and Healey (1998) identify three main stages in the history of CALL: Behaviouristic CALL, described above, was followed by Communicative CALL in the late 1970s, reflecting the potential that new personal computers offered in terms of individual work. This approach focused more on the use of linguistic structures and forms and less on the process of learning and manipulating them. Communicative CALL was aligned with cognitive theories which viewed learning as "a process of discovery, expression, and development" (Warschaurer and Healey, 1998, p. 57). Towards the late 1980s, communicative language teaching theory and practice was reassessed, leading to a social or socio-cognitive vision of language learning and the emergence of task-based, project-based and content-based approaches, a stage in CALL which the authors refer to as Integrative CALL. This stage

is characterised by a viewpoint which considers that the development of linguistic and non-linguistic skills are integrated together with each other and also with technology. The authors note that Integrative CALL marks a clear shift away from a cognitive view of language teaching to a view in which language is seen to be authentic and socially contextualised.

However, this three-way categorisation of the stages of CALL is subsequently challenged by Bax (2003) on the grounds of historical inconsistencies, lack of clarity with regards to the criteria used, and also due to the claim by Warschauer and Healey (1998) that Integrative CALL was replaced by Communicative CALL completely. As Bax (2003) argues, Warschauer and Healey's exemplification of Integrative CALL with task-based, project-based and content-based approaches makes little sense, considering that these approaches all continue to be used in classrooms today and are often regarded as a development of the communicative language teaching approach. In fact, Bax argues that we should aim for a state of "*normalisation* in which the technology is invisible and truly integrated" (Bax, 2003, p. 13) into the learning process. The author exemplifies this concept of normalisation of technology with items such as the watch or the pen, saying that these technologies are so normalised that they are no longer acknowledged as technologies. He takes the analogy further, arguing that we do not refer to 'PALL' for 'Pen Assisted Language Learning' and argues that ultimately "CALL practitioners should be aiming at their own extinction" (Bax, 2003, p. 23).

Other researchers have also reviewed approaches to teaching with computers and in this sense, Blake's (2007) review of trends for using technology in the language curriculum and Brooke's (2013) review on the historical background of the paradigms behind language learning in virtual learning environments (VLEs) are particularly interesting. Blake (2007) identifies two main paradigms within CALL: Interactionism and Socio-culturalism. Interactionist perspectives consider how negotiation of meaning in synchronous computer mediation communication (CMC) is encouraged with comparable results to face-to-face communication. On the other hand, sociocultural researchers reject the traditional mainstream 'weak' interactionism perspective and its view of communication in terms of information processing, and instead advocate for the 'strong' interactionist perspective (Mondada and Pekarek Doheler, 2004) and, consequently, place communication within a social and cultural context. According to Blake (2007), these two paradigms encompass the majority of learning theories on which subsequent research in online language teaching is based today. Parallel to this, the relationship between theories, approaches and methods has also changed, as no new method has emerged since the late 1980s and the very nature of what constitutes a method has been put at test (Kumaravadivelu, 1992; Richards and Lockhart, 1994; Stern, 1992). This 'postmethod' era empowers teachers with "knowledge, skills and autonomy [… and is characterised for] a search for

an open-ended, coherent framework based on current theoretical, empirical, and pedagogical insights that will enable teachers to theorize from practice and practice what they theorize" (Kumaravadivelu, 1994, p. 1).

As a consequence, research becomes less experimental and more focused on what occurs in actual classrooms. Issues like online chatting within an Interactionist framework, intercultural communicative competence from a sociocultural perspective and electronic literacy from the perspective of Identity Construction are in vogue in the late 1990s and early 2000s according to Blake (2007), who also anticipates what will continue to be relevant future directions in CALL: distance-learning language instruction, feedback, Intelligent CALL (iCALL), in which artificial intelligence is used to develop CALL materials such as intelligent tutoring systems which can process learner input and give feedback, and teacher training. However, Blake's view is that iCALL has not advanced as much as it might have due to the increasing interest of research in sociocultural perspectives that defend that human communication plays a more central role in language learning than CALL. In this sense, the origins and development of Tutorial CALL, or the interaction of learners with a computer, derive from behaviourism, whereby information is learned in discrete items at the pace of the learner and provides immediate and individualised feedback (Heift and Schulze, 2015). Instead of the computer being used for language learning for interaction, the computer is used for mechanical practice activities. Despite the conceptual shift towards communicative CALL, Tutorial CALL continues to focus on more simplistic knowledge-of-result feedback, although individualisation has been gradually introduced with calibrated item difficulty, whereby learners are given gradually more difficult items depending on the result of previous items.

On the other hand, Brooke (2013) posits that distance language learning courses are firmly situated within the Social Constructivist model, whereby knowledge and reality are constructed through interaction with others. As Robbins (2017, p. 42, 2018) claims in her review of the role of online language teacher, "communication sits naturally at the heart of the language learning process". In this context, Vygotsky's influence over language learning theories cannot be underestimated. Vygotsky's theory of the Zone of Proximal Development (ZPD), which refers to what a learner cannot do alone but can do through scaffolded interaction with another person forms the foundations for predominant language teaching approaches today. In this sense, Brooke points out that learners interacting with more able peers improve their communicative skills and what is more, more capable peers also benefit from the interaction as they learn by teaching (Brooke, 2013).

Table 1 provides an overview of the relationship between the principal theories and approaches to language learning and teaching and the corresponding stages of CALL.

Table 1. Overview of the relationship between principal theories and approaches in language learning and the stages of CALL

Time frame	Theories of language learning		Principal approaches to language teaching	Stages of CALL
1940s	Behaviourism		Audiolingual method	• Behavouristic CALL (also referred to as Structural CALL and Traditional CALL). Computer viewed as mechanical tutor. • Teacher plays no role.
1980s	Cognitivism Psycholinguistics		Communicative Language Teaching approach	• Communicative CALL– introduction of personal computers – demand for interactive and communicative uses of computer for language teaching led to gap filling, vocabulary games, text reconstruction exercises • Teacher plans learner experience.
1990s	INTERACTIONISM	Socio-cognitivism	Content-based, Context-based, Task-based, and Project-based approaches & Post-method era	• Integrative CALL – introduction of the Internet and Multimedia – computers used for communication – introduction of Computer-mediated communication (CMC) • Teacher is facilitator.
2000s		Social constructivism / Socioculturalism	All previous approaches may be adopted in the most appropriate way for learners for the specific context.	• Normalisation of CALL (Bax, 2003) – introduction of Web 2.0. Emergence of wikis, blogs, social networking, podcasting and use of synchronous computer-mediated communication (SCMC). Anyone can create and share online content. • Teacher is facilitator/mediator.

The stages shown in Table 1 are neither linear nor mutually exclusive and the start of one stage does not necessarily mean leaving everything from the previous stage behind (Singh, 2015; Warschauer,

1996). The first three rows have been discussed above and the last row will be discussed in the following section, where we describe the current state of CALL.

2.2 The Present Situation of Language Learning with Technology

In the previous section, we have seen that early language learning with computers was based on a behaviourist theory of learning, which features repetitive language drilling, and assumes that learners are empty vessels to be filled with knowledge. We have also seen that with the emergence of social constructivist theories and approaches, which consider social interaction as the primary means through which learners construct new meanings (Vygotsky, 1978), CALL has transitioned through various stages paralleling advances in technology. We now consider the current state of CALL.

It could be argued that in 2020 teachers and learners use computers on a daily basis with no fear or excessive respect for them and whereby they are integrated into classrooms in the same way as coursebooks (Bax, 2003). However, while it may be true that technology has become an integral part of many classrooms, the digital divide remains more than evident (see for example Yoon, Jang, Vaughan and Garcia, 2020, who investigate the digital divide by race and ethnicity and socioeconomic status for use of the Internet for health information). González-Lloret and Ortega (2014) express the same view in their work on technology-mediated task based language teaching and it would seem there is still some way to go before we attain a state of technological normalisation in education. Despite this, theoretical advances have been made. In this sense, closely related to but distinguishable from constructivist perspectives on learning, sociocultural theory acknowledges the role of the cultural tools and artefacts of the social context and their impact on how knowledge is produced. In this line, Johnson (2006, p. 237) describes how socioculturalism "defines human learning as a dynamic social activity that is situated in physical and social contexts, and distributed across persons, tools, and activities". She aligns with the belief that individual knowledge derives from participation in communities of practice (Wenger, 1998) and argues that to understand how learning takes place we need to consider the social activities which individuals engage in and "see how they reappear as mental activities in the individual" (Johnson, 2006, p. 237). Within the context of second language teacher education, Johnson (2006) claims that the positivistic paradigm which historically underpins second language learning assumes that teachers learn about language and ways to teach it through teaching education programmes. However, Johnson explains that this view does not correspond to reality, which is situated and context specific. In essence, Johnson (2006) argues for language teacher education to be more in line with current language

learning theories; it should be social and collaborative, and emerge from individual experiences in communities of practice.

The application of social learning theory to online contexts is addressed by Hill, Song and West (2009). The authors apply three social learning constructs (context, culture and community, and learner characteristics) to web based learning environments, illustrating how each may be operationalised in online contexts. Three aspects of their framework are particularly relevant for online language learning:

- interactions, which the authors stress are central for successful online learning, and include interactions of varying lengths with other learners, with instructors or with the course content;
- community, whereby small and large group connection-building should be facilitated in online contexts; and
- self-efficacy, which enables learners to make choices in interactions but also promotes self-regulated learning.

With regards to this last aspect, Murray (2014) compares self-regulated learning and learner autonomy and posits that they have many common characteristics: active engagement, goal-directed behaviour, metacognitive skills, intrinsic motivation. However, he notes two main differences between these concepts: learner initiation and learner control over the learning environment. In self-regulated learning, it is often the teacher who initiates the task, thereby limiting the learner's freedom to a certain extent, whereas in learner autonomy, learners take on this responsibility themselves. With regards to control over the learning environment, Murray (2014) questions the possibility that individual learners have where learning takes place in social environments such as classrooms. Murray (2014) concludes that where self-regulated learning is mainly about learners' cognitive process, learner autonomy is more related to how the self relates to social worlds. Learner autonomy is one of the central tenets of the constructivist paradigm, as this approach to learning "holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner" (Elliott, Kratochwill, Littlefield Cook and Travers, 2000, p. 256). In fact, learner autonomy is not the only focus of enquiry in studies rooted in the theoretical framework of social constructivism. Yang and Yi (2017), for example, ground their investigation within a social constructionist view of language learning and identity, in which identity is socially and culturally constructed and situated, and discourse is emphasised as a vehicle for the construction of knowledge. Their study looks into learner identity construction in an eTandem

context, whereby two learners with different first languages help each other learn each other's language. They conclude that identity construction and L2 learning improve through eTandem. For Yang and Yi (2017, p. 97) eTandem offers "a meaningful and productive L2 learning environment" as learners teach each other. The situated nature of learning is also emphasised in Coryell and Clark's (2009) empirical study into whether online language learning reduces language learning anxiety. The authors defend that language learning "is personal and communally situated" (2009, p. 484) and base their study both within a sociocultural activity theory of L2 learning and also within the theories of situated cognition. For Coryell and Clark (2009), learners are not isolated, but rather working in social and cultural contexts, bringing their own experiences and views of the world into the learning environment and then taking the language components into their personal realm of understanding. Learners appropriate language components from the target language, so language is seen as transformative and it is this transformative nature of language learning which they argue can be a source of anxiety for learners.

Parallel to this, AbuSeileek (2009, p. 320) suggests that "teachers and practitioners need to set parameters for genuine communication between learners" and therefore the objective of CALL is to provide a context for communication and interaction to occur. The author acknowledges that integrating online learning technologies to support learners is challenging but, inspired by the work of Uden and Beaumont (2006), he argues that pedagogy, not technology, should guide the learning process. This idea has been well accepted in the field of online language learning research in recent years, and studies with a focus on technology have given way to those focussed on communication. Along this line, Fischer (2013) claims the focus of research in information and communication technology (ICT) has shifted over the last three decades from technology to communication. Fischer offers a visual representation of this in the following way: IC**T** >**I**CT > I**C**T. Fischer explains the moving 'bold' letters within the acronym by referring to the last 30 years of CALL research history; his view is that the focus has changed from technology (T) to informative language-learning content (I) but this has now moved on to an emphasis on communication (C) as both the learning objective and also the way to teach languages online. Aligned with this perspective, Masats, Juanuix and Albines claim that:

> CALL programs also offered learners opportunities for interacting in real contexts or through simulations. Yet the revolution in the field of language teaching, especially from the late 1990s, was computer-mediated communication (CMC). For the first time, language learners could communicate, synchronously and asynchronously, with other learners or speakers of the target language 24 hours a day; first through tools such as electronic mail and instant messages and then through social platforms and virtual worlds. (2017, p. 186)

González-LLoret (2011, 2015) explores research into the use of Conversation Analysis (CA) in CALL and SLA, mostly for text-based online discourse realised in CMC. The author validates the use of CA to analyse these texts based on the premise that CMC resembles conversation more than writing. She points out that research approaches in which CMC is considered more in terms of writing more often follow discourse analysis methodology, but she argues that CMC language is not identical to oral interaction and may be a distinct genre. Citing Chun (1994), González-Lloret suggests that technological innovations "provide learners with engagement in talk that is more realistic, with conversational practices that are hardly ever experienced in classroom interaction" (2015, p. 573), and references Tudini (2013) when she claims that classroom interaction "is heavily influenced by institutional patterns of interaction and highly structured turn-taking sequences" (2015, p. 573). This idea is complemented with Blake's (2007) view of CMC. The author argues that:

> Researchers have made it clear that any benefits from engaging in CMC (Computer-mediated communication) are not automatically or deterministically derived from the tools themselves (Zhao, Alvarez-Torres, Smith, and Tan, 2005; Thorne, 2003), but rather from how CMC is used in service of promoting meaningful interactions and real intercultural reflections. (Blake, 2007, p. 77)

AbuSeileek and Qatawneh (2013) suggest that today, there is an increasing interest in the use of CMC in the language classrooms because CMC may:

- provide frequent opportunities for students to express their ideas and opinions;
- produce large amount of target language output;
- allow more time to develop comments, which may lead to greater precision of expression;
- promote a collaborative spirit;
- enhance motivation for language practice;
- promote student-centred atmosphere;
- focus on content rather than form;
- reduce students' anxiety from face-to-face communication in a foreign language class; and
- develop student's linguistic performance.

(AbuSeileek and Qatawneh, 2013, p. 182)

2.2.1 Key issues in online language learning research.

Several researchers have explored the influence that technology has had on language learning and teaching. In this sense, Sun's (2013) overview of the use of technology in language teaching in China establishes that technology has a great impact on four areas: on literacy practice, student identities, pedagogy and how to apply technology to language teaching. Sun also considers that standards such as maintaining an optimum working atmosphere, effective questioning and providing students with opportunities to practise are not changed much with the incorporation of technology. This view, which would seem to be a positive one, perhaps misses the point made by other researchers such as Hampel and Stickler (2005) and Compton (2009) who claim that technology offers new affordances to the realm of language learning and teaching and is not simply a digital version of traditional teaching. This view is also supported by Ware and Hellmich (2014) in their review of CALL research for elementary and secondary education, who identify two main perspectives from which research is carried out: one which focuses on learning outcomes and determining optimum technologies to reach these, and the other, which centres on the learning opportunities afforded by new technology through new learning environments, expanded semiotic resources and new communication modes. In a similar vein, White (2014, p. 543) considers that multimodal tools offer different communication channels and "multiple modes for making meaning", proposing a research agenda for distance learning of foreign languages. White (2014) also points out that research is needed into identifying what learners need to learn in order to make the best use of the affordances offered by a multimodal environment. We now address three specific areas which have been the focus of research in online language learning:

- Synchronous versus asynchronous forms of communication
- Tools and modes used for communication in the classroom
- Form-focussed instruction

Synchronous versus asynchronous forms of communication

A key issue in online language learning education revolves around the dichotomy of synchronous versus asynchronous forms of communication. In synchronous communication, participants, who may or may not share the same physical space, communicate in real time through (text or voice) chats or videoconferences. Asynchronous communication, on the contrary, is deferred, that is, there is no temporal coincidence between those who communicate through email or discussion forums. Research in online education also includes a number of studies devoted to determining which should be the preferred form of communication in virtual classrooms.

Hill (2010), who tracks the use of asynchronous discussion forums by 29 English language learners, concludes that while the observable outcomes are limited, the experimental group express their enjoyment with online discussions and show improvement in terms of interpersonal communication. Similarly, Brandl's (2012) study with German-as-a-foreign-language students on task design as a means of maximising language production in terms of quantity and quality also examines the synchronous-asynchronous contrast. In his study, students use both synchronous (in an online chat) and asynchronous (forum) modes of communication to conduct language speaking tasks. He finds that synchronous or asynchronous interaction does not seem to have a significant effect on language output and argues that interaction in computer-mediated communication is insufficient on its own for language learning; more relevant is the quality of interaction and this is dependent on task design. Brandl points to the necessity for asynchronous or synchronous tasks to be different: the asynchronous mode gives students time to reflect and may be less stressful than synchronous communication tasks, whereas the synchronous mode of communication is conducive to helping participants feel closer and more connected to each other although it can be uncomfortable or lead to "terse statements" (Brandl, 2012, p. 87). His findings suggest that there is no clear advantage of synchronous communication over asynchronous communication and each can be useful in different ways. This idea had been put forward almost a decade earlier by Abrams (2003) who shows preference for online learning over face-to-face instruction. The author claims that although synchronous and asynchronous communication are different in nature and serve different pedagogical purposes, both modes offer learners more time to interact, more opportunities to negotiate meaning and more chances to produce output and develop vocabulary than non-virtual learning environments.

Tools and modes used for communication in the classroom

Research on specific tools used for communication indicate that tools used outside the classroom by learners in their personal lives, such as social networking sites, are becoming part of the array of language learning tools employed in online language learning courses (Blattner and Lomicka, 2012; Harrison and Thomas, 2009; Steel, 2012). One example of research into the use of social networking tools for language learning and the affordances offered by these is Liu, Abe, Cao, Liu, Ok, Park, Parish and Sardegna's (2015) study. They look at the social network websites specifically created for learning languages, particularly English as a Second Language (ESL), from the teachers' and the learners' perspectives. According to the authors, within the socio-constructivist framework the teacher has a facilitative role of expert guide and provider of opportunities for practice. In this empirical study, four social networking sites for language learning were examined from the

perspective of six teachers and six ESL learners. Liu et al. (2015) analyse the features of the various social network features and the answers of students and teachers to questionnaires designed to unveil their views on actions such as: creating a profile, searching for friends, adding friends, creating a circle of friends, communicating with others, receiving feedback from friends, uploading user-generated content and enhancing peripheral awareness. The conclusion that Liu et al. (2015) draw is that the social network sites included in the study have the potential for facilitating language learning due to the fact that Web 2.0 technology provides the possibility for increasing "learner autonomy, collaboration, and collective knowledge-building experiences" (Liu et al., 2015, p. 141). In other words, the social networking aspect of the tools facilitates the construction of learning communities. Closely related to social networking tools, social media constitutes the focus of Inayati's (2013) review on how these are used in higher education English Language Teaching. The author pinpoints the main strengths of using social media in this context: the supportive learning environments they can foment, particularly for learner collaboration, but she also notes the possible drawbacks such as potential technical problems, superficiality and plagiarism. Although she points out that social media are the most recent technologies under investigation in this field, she also identifies other commonly tools used, specifically blogs, wikis, Facebook, Skype and YouTube.

Other theoretical studies based on the examination of literature on online tools to (learn to) communicate include the work of Dooly and Masats (2015) or of Wang and Vásquez (2012). Dooly and Masats (2015), in their review of foreign language research published in Spain between 2003 and 2012, establish that most studies either focus on how specific modes of communication are used in the classrooms or on which tools are employed to do so. They conclude that research in this context and period concerns the use of three tools: online language resources, wikis and forums in virtual learning environment. These findings partly coincide with the results of the earlier worldwide state-of-the-art study conducted by Wang and Vásquez (2012), who review 29 articles, 2 dissertations, and the 12 chapters on empirical studies into Web 2.0 and second language learning between 2005 and 2009. They determine that blogs and wikis accounted for more than half of the studies. Other technologies Wang and Vásquez (2012) investigate are 3-D virtual world, podcasts, and social networking tools. The authors suggest that newer technologies "afford greater interactive learning opportunities through genuine communication and social interaction in the target language" (Wang and Vásquez, 2012, p. 416). Parallel to this, Dooly and Masats (2015, p. 364) argue that "studies that further a deep understanding of the intricate relationship between technological tools and language learning are essential."

Learning in virtual environments and the incorporation of a variety of technological tools also promotes the use of a greater variety of semiotic systems to covey meaning or to interpret texts (Masats, 2016a). This view is aligned with Kress's (2010, p. 2) statement that contemporary forms of communication deals with "meaning in all its appearances, in all social occasions and in all cultural sites." Consequently, multimodal communication often integrates all five semiotic systems:

- Linguistic: it relates meaning with the use of particular grammar, vocabulary and syntactic constructions to create texts in oral or written modes of communication.
- Visual: it relates meaning with the use of fixed or moving images and, in the case of written modes of communication, with the employment of colour, form and size of letters, phrases and sentences.
- Audio: it relates meaning with the use of volume, pitch, tone, rhythm, pronunciation, intonation and sound effects to produce or interpret texts in oral modes of communication.
- Gestural: it relates meaning with body language and posture, together with the use of gaze, movement, grimaces and other facial expressions in oral modes of communication.
- Spatial: it relates meaning with the position and organization of letters, images, graphs and symbols in texts in the case of written modes of communication and with proxemics (interpersonal distance, posture, orientation, use of space, object-handling) in the case of oral modes of communication.

Related to the new modes of communication emerging in multimodal online environments, Hampel and Stickler's (2012) study investigates the use of videoconferencing as support for multimodal interaction. Hampel and Stickler's study, which is qualitative with 25 participants, analyses participation patterns, functions and content of contributions and the interplay of spoken and written modes in online classroom discourse. The videoconferencing system used for interaction provides different communication modes: linguistic (spoken and written), visual (icons including emoticons, images, both still and moving) and gestural (webcam). One conclusion they draw is that learners working in multimodal environments can compensate for any lack in one mode by using a different one; for example, they can use text chat if there are faced with audio problems. They also find that successful users are quick to adapt to the affordances the tools provided and are creative when using them; for example, they use text chat to comment on what someone says so as not to interrupt the speaker. Hampel and Stickler note that both teachers and learners need to be aware of the functionalities of the medium in order to make optimal use of the affordances available, and that successful users transform the potential of the particular medium used for their own ends.

One of the unique characteristics of CMC that relates to the multimodal nature of online communication is the wide use of online visual communicative elements (e.g. emoticons, emojis and stickers) which serve the same function as nonverbal behaviour in face-to-face communicative encounters. One example of research in this area is the study Halvorsen (2012) conducts to analyse the types of emoticons used by adult learners in academic forums and to determine whether different forms of academic writing generate different patterns of emoticon use. Halvorsen (2012, p. 694) considers that the medium of communication influences its nature and notes that "online forms of communication have become the default mode of discourse today", which lead to new patterns of digital literacy development. One conclusion he draws is that emoticons are used to express a wide range of meanings including emotions which would not be as clearly expressed in writing. Another noteworthy finding is that all the emoticons used by students are in comments to posts and not in initial posts. This leads Halvorsen to conclude that students perceive initial posts as being are more "academic" than comments and therefore more formal; whereas comments to posts, which are generally student-to-student interactions, tend to be more communicative in nature. As part of his study, Halvorsen (2012) includes questionnaires to determine students' comprehension of and experience with emoticon use. He finds that patterns of emoticon production are generally consistent with emoticon comprehension of participants. Finally, the author posits that computer mediated discourse is evolving quickly and emoticon use is likely to continue to develop as it is an effective way to communicate an ever-widening range of emotions. For this reason, Halvorsen proposes that teachers should work on emoticons with their students as they are already using emoticons spontaneously to participate actively in discussion forums. In this sense, Vandergriff (2013) carries out a microanalysis of the use of emoticons and nonstandard or multiple punctuation by university students of German for emotive communication (a style related to the act of self-presentation and characterised by the display of extroversion, natural persuasiveness and spontaneity). She finds that the interpretation of CMC cues is mainly context-dependent and they may be used to mitigate or aggravate differences of opinion. Interestingly, she also notes that her learners' advanced level of German meant that their use of cues was similar to that of native German speakers. Yet, Vandergriff (2013) concludes that it is unclear whether this is so because the learners are transferring skills related to the use of emoticons from English, or whether emoticon use is mainly universal. She suggests, though, that the lower rate of emoticon use by lower level learners might indicate that emoticons do need to be learned, or it may be due to these learners' lack of linguistic control in less formal communication.

Form-focussed instruction

The adoption of the communicative approach in language teaching created the need to investigate how a *focus on form* (Long, 1991) could be part of meaning-based instruction. Spada (1997) coined the term *form-focussed instruction* (FFI) to expand Long's view on the topic. Spada defines FFI as:

> any pedagogical effort which is used to draw the learners' attention to language form either implicitly or explicitly. This can include the direct teaching of language (e.g. through grammatical rules) and/or reactions to learners' errors (e.g. corrective feedback). […Her term differs from Long's *focus on form* construct on the sense that] Long's definition of *focus on form* is restricted to meaning-based pedagogical events in which attention is drawn to language as a perceived need arises rather than in predetermined ways. The term FFI is used here to refer to pedagogical events which occur within meaning-based approaches to L2 instruction but in which a focus on language is provided in either spontaneous or predetermined ways. (1997, p. 73)

Over a decade ago, Hampel (2006) had declared that task-based learning research (see next section) in the context of CMC should provide teachers with hints on how tasks should be designed to ensure learners focus both on meaning and form when they interact online. In this sense, Samburskiy and Quah (2014) argue that there are two important conditions which need to be met for students to enjoy the potential of the online environment. Firstly learners need "opportunities for authentic and meaningful interaction" (Samburskiy and Quah, 2014, p. 158), which can only be achieved through effective instructional design and careful design of tasks. Secondly students need "pedagogical support from well-trained online language teachers" (Samburskiy and Quah, 2014, p. 158) and so online language teachers need to be skilled at facilitating interaction. However, online language teachers still need to be language teachers, providing corrective feedback to help learners modify their discourse. To support this view, Samburskiy and Quah (2014) draw on Schmidt's (1990) noticing hypothesis which indicates that meaning-centred activities are not sufficient to foster language learning; learners also need to notice language forms during interactions and then there needs to be a focus on form with attention to meaning, as the forms arise. They report that research findings are mixed as to whether written corrective feedback improves learners' writing accuracy or not but they provide a detailed breakdown of types of corrective feedback which can be used, pointing out that teachers tend to attend to lexis far more than grammar. Within the context of the research of Samburskiy and Quah's (2014) review, it is interesting to find recent work on the language teacher's role in online contexts with less emphasis on the facilitative roles the teacher needs to carry out her job well in online contexts. The affordances offered by new technologies for giving corrective

feedback are the focus of two studies of learners of Spanish as a foreign language by Gurzynski-Weiss and Baralt's (2014, 2015). The authors explore the impact of corrective feedback in students' learning process by using stimulated recall to jog learners' memories, a research method only made possible with new technology, in which participants are interviewed while watching a video of themselves working. Participants are asked what they are thinking in order to determine if there is any noticing of errors taking place while they receive feedback. As Gurzynski-Weiss and Baralt attest, corrective feedback in the context of CMC offers the potential to help learners notice any mismatch between production and the target form. A huge advantage CMC has over traditional learning is that all data is stored and retrievable and so learners have more opportunities for noticing new language and focusing on errors. Similarly, Fredriksson's (2015) empirical study of 30 learners of German working in groups in synchronous written chats explores the effect of learners' language expertise on interaction and collaboration. By grouping learners who are either equal or unequal in terms of level, Fredriksson sets out to discover whether learners interacting with other learners who have higher levels of competency help the former improve, as suggested by Vygotsky (1978), or if their lack of linguistic competence leads to lower rates of participation, as suggested by Ellis (2008). Fredriksson finds that lower level students tend to participate less frequently; however, when they do, they produce longer, albeit less syntactically complex posts. Fredriksson (2015) argues that the functionality of synchronous written chat conditions the type of interaction that occurs; there is a delay, the conversation stays on the screen and both of these factors mean participants have more planning time which can lead to more functional practice, which in turn helps learners internalise new language structures.

We can conclude that the main affordances offered by new technologies in language learning consist of the more personalised and flexible nature that are offered, with learners being able to learn more at their own pace. In more specific terms, boundaries between written and spoken modes are blurred, opening up new possibilities with the use of CMC, for example. Furthermore, social networks can be an ideal setting for learners to acquire more vocabulary. Finally, new technologies also provide optimum environments for providing effective corrective feedback.

2.3 Task-based Language Teaching

Bearing in mind the central role that task based language teaching (TBLT) has in language classrooms today, but particularly because the course examined in the present research adopts this approach, we now consider TBLT in more detail. Although TBLT was originally conceived for face-to-face contexts, it is an approach which fits well with online language education today (González-Lloret and Ortega, 2014, p. 3). TBLT draws on second language acquisition (SLA) theories such as focus on form

(Long, 1991), the interaction hypothesis (Long, 1996), and the noticing hypothesis (Schmidt, 1990), all of which are said to promote language acquisition. It is also based on constructivist and social constructivist principles (Thomas and Reinders, 2010). In contrast with form-focused methodologies, in which particular language forms tend to be selected, sequenced, presented, illustrated and explained in a teacher-centred way, TBLT is a learning-focused methodology, aimed at improving the natural learning process of the learner. TBLT involves the design and selection of tasks to promote language learning and incorporates communicative tasks which foster the development of competencies to take part in meaningful use of language outside the classroom. There have been several attempts to finely-tune the concept of task (Breen, 1987; Ellis, 2003; Long, 1985; Richards and Rodgers, 1986; and Skehan, 1998, among others). To cite an example, Bygate, Skehan and Swain (2001, p. 11) propose that "a task is an activity which requires learners to use language, with emphasis on meaning to attain an objective". A few years earlier, Richards, Platt and Weber (1986) had made a distinction between 'real-world or target tasks' and 'pedagogical tasks'. The former are those which take place outside the classroom while the latter occur in the classroom. In this sense, according to Nunan (2004, p. 4) pedagogical tasks:

> involve learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than to manipulate form.

That is to say, pedagogical tasks need to face learners with some sort of communicative challenge. For this to occur, Bygate, Norris and van den Branden (2015, p. 2) suggest that tasks need to engage the learner and provide "a communicative space for establishing a shared interpersonal focus (i.e., between the learner/communicator and one or more interlocutors or audiences)."

If we adopt the principles of constructivism, we should argue that pedagogical tasks should be based on the use of authentic materials because students learn a language to become users of that language (Masats, 2016b). According to Masats, an authentic text is written or oral, and comes from a real communicative context. As a result of this, the contents and structure of authentic texts are mainly determined by the linguistic uses within them, the context in which they are produced and the interlocutors involved. Within formal foreign language learning, where learners carry out meaningful tasks so that they can use the target language for taking part in genuine communicative situations, authentic texts offer several advantages:

1. They show language used in a real situation.

2. They provide a wide range of linguistic models.

3. They introduce cultural elements.

4. They offer a wide range of genres, registers, accents and topics.

5. The foster self-esteem in the learner due to the fact that understanding authentic samples of language is highly motivating.

On the other hand, the use of authentic texts also presents certain difficulties related to their accessibility, difficulty and appropriateness:

1. The teacher needs time to search and select them.

2. Their linguistic content is not always within the level of comprehension of the learners.

3. They are not accompanied by pedagogical guides, and therefore the teacher has to design activities in order to make optimal use of them.

Masats (2016b) suggests how these issues may be addressed and explains that teachers now have access to a wide range of authentic texts on the Internet. As she points out, task difficulty is not always related to the texts upon which they are based, but rather on the way texts are used, or because they are beyond the cognitive maturity of the learners. Therefore, the teacher must always mediate between the materials and the learners; materials should stimulate communication and foster meaningful learning and not inhibit either.

Despite the fact that tasks have long been the focus of study and also the instrument for data collection in research which seeks to unveil the learning process in second language acquisition (Masats, 2008; Seedhouse, 2005), there is a tension between researchers regarding their nature and interpretation. As Masats and Dooly (2011b) suggest, in order to understand how tasks are perceived in the interactionist paradigm, we need to refer to Breen's idea (1989) that pedagogical tasks go through three temporary phases: before they are actually implemented in class they are just a blueprint (*task-as-workplan*); during their execution learners work in joint collaboration to construct the meaning of the actions they undertake to carry it out *(task-in-process*); and upon their completion participants have (or not) achieved a result (*task-as-outcomes*). So, while mainstream interactionists seem to be interested in *tasks-as-workplan,* those who adhere to the 'strong' interactionist perspective (Mondada and Pekarek Doheler, 2004) we referred to in section 2.1 see tasks as a situated social practice (*task-in-process*) through which participants work in joint collaboration to construct meaning and to undertake the necessary actions for their accomplishment

(Masats, Nussbaum and Unamuno, 2007; Seedhouse, 2004). As Masats, Juanhuix and Albines (2017) point out:

> Yet, there exist major tensions within the discipline, which revolve around the discernment of the nature of task-based learning and the role interaction plays in language acquisition. Mainstream researchers, who position themselves in the cognitive-oriented perspective, treat tasks and task features as fixed constructs while claiming that social interaction contextualizes acquisition–as learners are exposed to modified, negotiated or comprehensible input– but plays a secondary role in such a process. Conversational Analysts, that is, CA-for-SLA researchers, by contrast, see tasks as forms of situated social practice and maintain that acquisition emerges from interaction. (Masats, Juanhuix and Albines, 2017, p. 184)

The tension between these two positions within the interactionist paradigm also relates to opposed views on the topics of research. Zhang (2016) argues that studies based on a psycholinguistic perspective mostly analyse learners' instances of negotiation of meaning during the execution of CMC pedagogical tasks, whereas studies based on a sociocultural perspective tend to revolve around the analysis of intersubjectivity in learners' discourse and the study of discursive activities that explore participants' identities, make use of sarcasm or sense of humour, establish rituals for opening or closing communicative exchanges, etc.

In a review of experimental and quasi-experimental studies which incorporate SCMC and its application in TBLT, both in the relationship between technology and task design, but also in the process of language learning, Ziegler (2016) draws on the work of Gass and Mackey (2007) and suggests that "conversational adjustments occurring during communication benefit L2 development by providing learners with opportunities to receive modified comprehensible input and interactional feedback, notice gaps between their interlanguage and the target language features, and produce output" (Ziegler, 2016, p. 138). This view corresponds to what we have identified as the 'weak' interactionist approach to understanding communication in a second language. As learners work for example on a speaking task, the interaction itself provides the opportunity not only to produce language, but to hear it in such a way that they are able to understand well, and also so that during the interaction they are able to sense any difference between what they are saying and what they could be saying. In this sense, González-Lloret and Ortega (2014) bring together a collection of research on the same theme, with the aim of reflecting the principal aspects involved in developing what they term as "technology-mediated TBLT". The authors propose this term to describe the relationship between tasks and technology as a process in which pedagogical task development

takes into account the affordances offered by the technology but also the affordances of the task. They also claim that the reciprocity of this relationship can only be maintained if three premises are met. Firstly, there must be a radical approach to task definition which includes a primary focus on meaning, goal orientation, learner centeredness, holism and reflective learning; secondly, we must be aware of the implications of integrating technology into educational design and avoid tasks being determined by technology; and thirdly, tasks and technologies should be viewed in their curricular context. These three requirements are taken into account in the present study as learner activity across three similar, but distinct tasks is analysed.

2.4 Teacher Roles and Competences in Technology-enhanced Language Learning

The adoption in foreign language classrooms of the communicative approach first and then of the task-based approach have transformed the teaching practices and the roles of teacher and learners alike. In the 1940s, in audiolingual classrooms, influenced by the premises of behaviourism, the teacher was viewed as the provider of knowledge and students as the recipients of that knowledge. Students had no control over content and were trained to produce correct responses by teachers (or computers), who provided language models, corrected errors and controlled contents and participation modes and pace. From the 1980s, thanks to the premises proposed by the communicative approach, teachers assumed their current role of facilitator or mediator of learning, with students acting as negotiators and interactors who give as well as take (Nunan, 1989).

Masats (2016a) argues that to be a good language teacher today is not about having greater knowledge of the target language, but is best able to manage communication in the classroom. Among the list of actions that a competent teacher must carry out to build, together with their students, an effective learning context, the author cites the following:

- Stimulate participation by using the affective key that best enhances learning, planning and structuring lessons to satisfy individual and collective interests and needs, and being able to employ a wide range of teaching/learning tools.
- Energize communication by making use of classroom dynamic techniques to guarantee group cohesion, avoid conflicts, and, foster cooperation and collaboration.
- Organize learning by catering for the physical space –virtual or not– and psychological context in which learning takes place, and by articulating the forms of participation.
- Evaluate the learning process and all the elements involved in it by applying a variety of assessing resources and tools, and by promoting self- and peer assessment.

In this sense, Warschauer and Healey (1998) and Bax (2003) identify a shift in the role of the online language teacher from "provider of knowledge" (Bax uses the term "monitor") to one of "facilitator of learning". This changing terminology is an indication of how teaching roles have changed too in online learning over the last decade. Blake (2007) argues that the role of the teacher is not lessened in online teaching contexts and teachers are "expert guides". His view is that student and teacher roles are changing; teachers are "guides" or "facilitators", concurring with Warschauer and Healey, while students need to be more autonomous. Harms, Niederhauser, Davis, Roblyer and Gilbert (2006), establish a correlation between the facilitator role and the teacher's need to promote co-presence to help students feel less distant from the learning environment. To them, constructing a learning community is considered beneficial as it fosters good group rapport and encourages participation. Alberth (2011, 2013) also emphasises the fact that teachers' facilitation skills are a crucial part of online language learning.

Adopting a more negative approach to the skills online language teachers need, Baumgartner (2015, p. 213), citing Kaleta, Garnham, and Aycock (2005) and Gerard, Gerard, and Casile (2009), warns against the difficulties teachers can have moving from traditional to hybrid courses as they tend to lean towards the "course and half syndrome". This "bolt-on" approach to incorporating technology into traditional language teaching is a reality that only effective teacher training can minimise. The danger is that teachers who are not prepared effectively but are required to use ICT in their teaching start with technology and think of ways to incorporate it, rather than starting with their learning objectives and identifying technological solutions for these.

2.4.1 Teachers professional development in the use of technology.

In order for teachers to be able to accept their new roles, they need to understand these in more depth and this can often be achieved through pre- and in-service teacher development programmes. As part of their in-service formative training of faculty members in instructional conversation, Meskill and Sadykova (2011) find one of the challenges their participants (teachers who moving into online teaching environments) face is the change of pedagogical approach, from more teacher-centred to more learner-centred, with a consequential change in the role of the teacher to "guide", "helper" and "mentor". They report that participants in their study initially struggle with learners often being more technologically competent than they are, contributing further to the shift in control from the teacher to the learner. Yet, Llanes' (2019, p. 49) study on the training of pre-service teachers, today's millennials, reveals that:

> although most teacher candidates have well developed digital skills and master the communication tools they use in their daily life, they have many difficulties when trying to

integrate technology in the lessons they carry out at their host schools during their internships.

These findings suggest that integrating technologies into class activities is not an easy task (Mishra and Koehler, 2006, 2008), partly because the kind of knowledge, skills and abilities teachers should possess to develop their profession "is above and beyond understanding technology, content, or pedagogy in isolation, but rather as an emergent form that understands how these forms of knowledge interact with each other" (Mishra and Koehler, 2008, p. 10). Similarly, Canals and Granena (2020) report on a case study of an online teaching education module that prepares experienced English as a foreign language teachers to become fully online teachers at the institution the current research is based on. The authors argue that "for a successful transition to online teaching, previous face-to-face experience and even technical skills are not enough, since teachers are placed into the position of challenging previous practices, such as assessment, group interaction, and student/teacher dialogue" (Canals and Granena, 2020, p. 119).

In an article which reports on the experience of designing and piloting the first online English language course in a Jordanian university evaluating the course from the teachers' perpectives, Canals and Al-Rawashdeh (2019, p. 637) find that "teacher readiness requires continuous professional development to specifically support the skills good online language teachers need to master, which, in turn, will determine to a great extent teachers' attitudes towards using technology for language instruction". This view coincides with the tone of the dimensions of Baran and Correia's (2014) professional development model for online teachers which consists of the following three elements:

1) teaching, in terms of technology, pedagogy and content, and supported by workshops, training programmes and individual support;
2) community, in terms of communities of practice, peer support and mentoring programmes; and
3) organisation, in terms of organisational support realised through rewards and recognition, as well as a positive organisational culture.

On the other hand, teachers' attitudes towards technology and developing new identities provide important justifications for professional development for online language teachers. In this sense, Comas-Quinn (2011) notes that teachers in the past may have moved to online teaching contexts through an inherent interest in technology, but more recently, teachers are being required to teach online and as a result may not have such positive attitudes. For this reason, professional

development programmes are essential, both in practical issues but also in the affordances which technology can offer. She insists that teachers and institutions need to invest "time, effort and commitment" (Comas-Quinn, 2011, p. 221) and exemplifies Ernest and Hopkins' (2006) model as being particularly comprehensive. This model includes preparation and the use of training manuals, face-to-face meetings for teachers, support via email, classroom observations and feedback based on teachers' checklists, pedagogical discussions in online staff rooms which also provides peer support for teachers to help each other. Comas-Quinn (2011) suggests that professional development should be personalised, proposing that a mentoring system can be particularly effective. She bases this on Kubanyiova's (2009) constructivist view that professional development should "destabilise teachers' existing views of their role and identity and support them in building new perspectives" (Comas-Quinn, 2011, p. 222). In terms of helping teachers to create new identities as online language teachers, Meskill and Sadykova (2011) report on a study of a one-year teacher professional development course. The study is small, with just six participants but focuses on the changes in attitudes of the teachers during the process of moving into online teaching contexts. As Meskill and Sadykova explain, initially the teachers feel that they are learner-centred but in reality, their teaching is product-based and more teacher-centred. As they move online and take part in the professional development course, they find that observation and reflection enables teachers to understand better how to make the transition to more learner-centred teaching. Many of their students are more technologically competent and able to take over some of the control so that teachers can step back and in when necessary to guide students.

> Other authors also note the need for teacher development programmes, such as Compton (2009), who referring to Easton (2003), explains that online language teaching competences must be considered separately from face-to-face language teaching and online teaching in other areas. In terms of teacher training content, Compton (2009) claims that language teachers complain that if they receive any teacher training at all, the focus is on technology, not pedagogy. Kessler (2006) also notes the general sense of dissatisfaction felt by language teachers because training is often local only and not grounded in research. This problem seems to have been overcome in the study of Dooly and Masats (2011), who immerse their student-teachers of English in a project-based course in which they are required to learn how to use media technology and how to implement projects, while they are taking part in a project themselves. Thus, as Dooly and Masats (2011, p. 50) argue:
>
> learning was possible because it was situated and allowed linguistic, technical, and pedagogical knowledge emerge from practice […] changing teaching paradigms is never

> easy, since previous experience (as both student and teacher) will influence their teacher approach. However, if student-teachers have […] effective training and support, and good models (and their own modelling through experience, the possibilities for transformation are higher.
>
> In our project, the combination of individual work, group discussions, and the use of technological resources signified moving away from a traditionalist perspective of using new technologies as mere complements of existing classroom practices and curriculum content.

Having considered the way in which online language teachers have been referred to, often emphasising the facilitative nature of their role, the next section considers in detail the skills and competences online language teachers need in order to be successful.

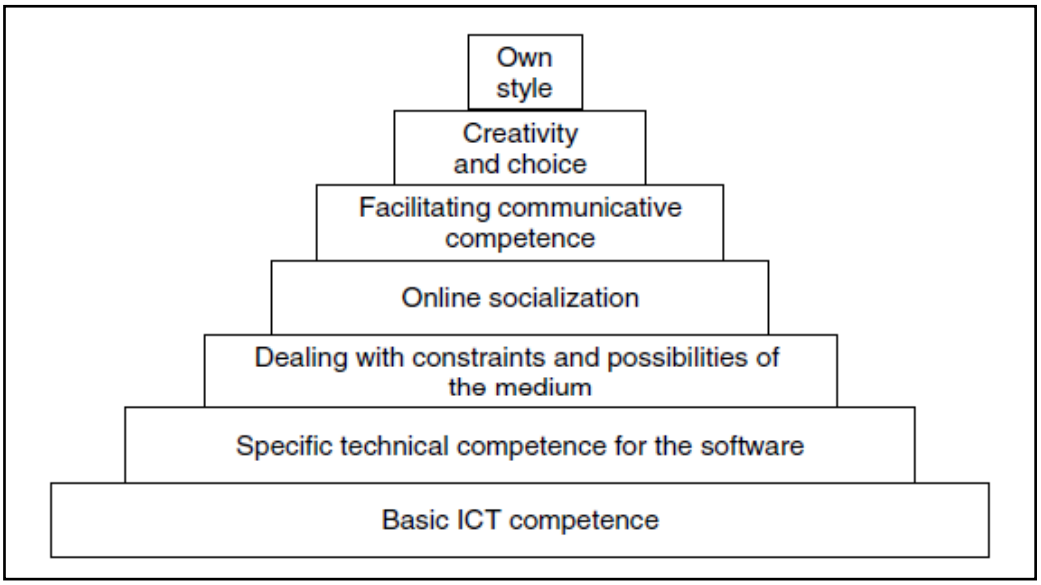
2.4.2 Digital teaching competences.

As we have seen in the previous section, teacher training cannot be reduced to the acquisition of technological competences 'per se'; it must be based on its pedagogical application as well (Tejada, 2009). The so-called digital teaching competences or, as a wider concept, what some authors and researchers call digital literacy merge these two aspects.

> Digital literacy refers to the skills, attitudes and knowledge required by educators to support learning in a digitally-rich world. To be digitally literate, educators must be able to utilise technology to enhance and transform classroom practices, and to enrich their own professional development and identity. The digitally literate educator will be able to think critically about why, how and when technology supplements learning and teaching (Hall, Atkins and Fraser, 2014 p. 5).

In terms of how closely these skills and competences are aligned with traditional language teachers, Davis and Rose (2007) and Wood (2005) believe that that the assumption that a good face-to-face (f-2-f) teacher can make the move to online teaching is a myth, and that the skills required are distinct and separate. Along this line of thought, Hampel and Stickler's (2005) posit that online language teachers require different skills from traditional language teachers in f-2-f and propose the skills pyramid framework for online language teaching we reproduce in Figure 1 below:

Figure 1. Skills pyramid (Hampel and Stickler, 2005, p. 317)



Guichon and Hauck (2011) refer to Hampel and Stickler's Skills pyramid, which sequences the competences in a linear way when they provide a list of "techno-pedagogical competences" which online language teachers need to master (and which should be included in training):

- Assess the potential and limits of technologies for language and culture learning;
- Carry out a needs analysis to introduce adequate technologies at appropriate moments in a pedagogical sequence;
- Handle basic tools and applications, and solve simple technical problems;
- Design appropriate tasks;
- Design for interactions within and outside the classroom in view of the technologies' affordances;
- Rethink the contract with learners and colleagues;
- Manage time and optimize the integration of technologies.

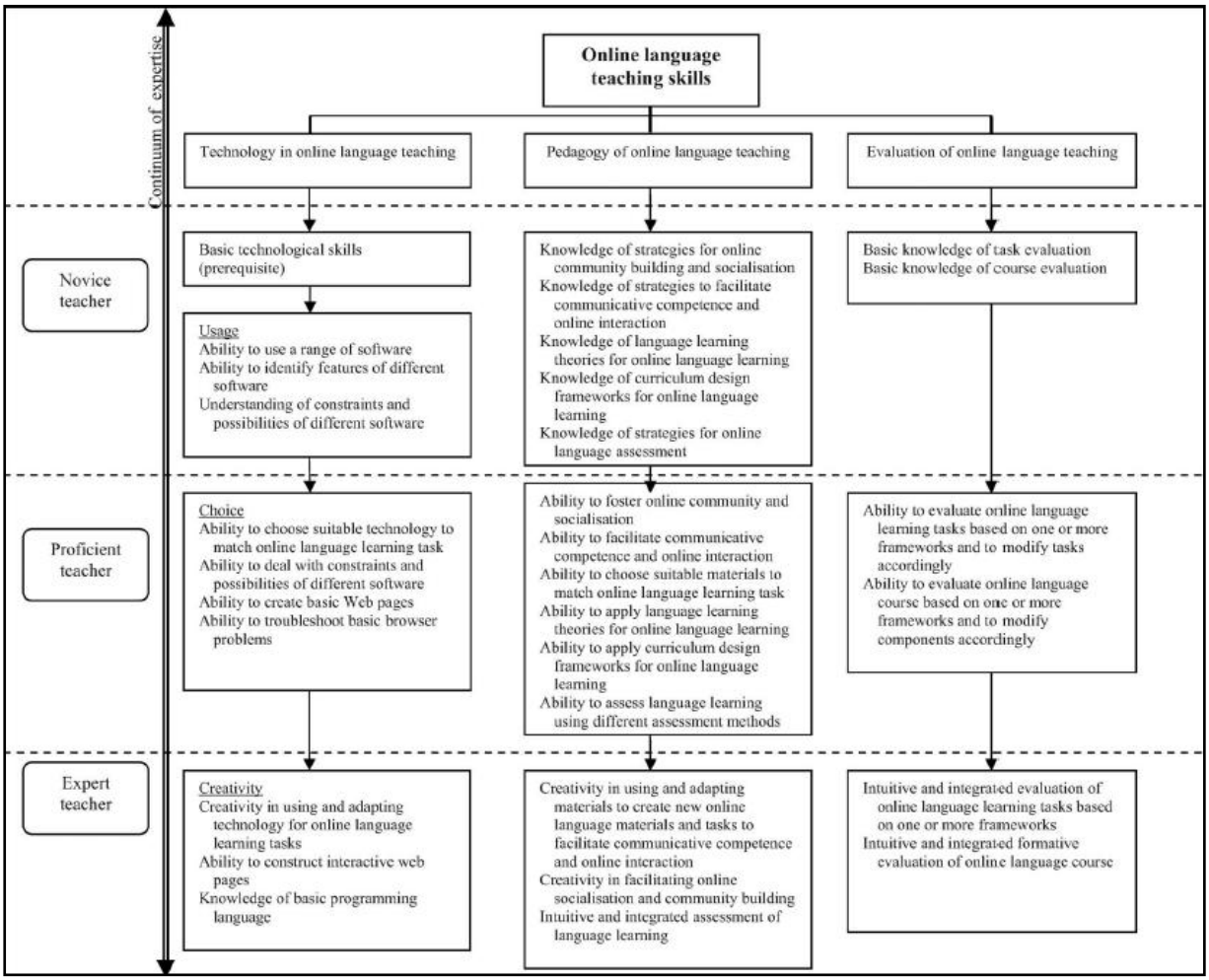
(Guichon and Hauck, 2011, p. 191)

According to Guichon and Hauck, not all online language teachers need to be experts in every area and much will depend on the context they are working in. For example, for online teachers in large institutions, needs analyses and task design may be centralised and carried out by a subject coordinator. Contrary to this, Brandl (2012) sees task design as problematic. He criticises the fact that many tasks are designed for face-to-face or contexts which assume the presence of the teacher, but that in online learning the "lack of the teachers' presence requires sufficient pre-task planning […] (and therefore tasks should guarantee) flexible, open-ended and student-driven outcomes"

(Brandl, 2012, p. 101). The author argues that teachers who are involved in task design need to understand how tasks should be constructed in a different way if there is no teacher present. On the other hand, teachers who are not so closely involved in designing tasks simply need to be aware of this fact, as it can be helpful if learners encounter difficulties carrying out a task.

Hampel and Stickler's skills pyramid, however, is not free from criticism. For example, Compton (2009) rejects the model because it assumes that teaching skills must be acquired in a linear way and she proposes they can be acquired at the same time. She also argues against Hampel and Stickler's view that online language teachers need completely different skills compared to f-2-f instructors by pointing out that only one (facilitating communicative competence, step 5) of the seven stages in their model is specific to language teaching. Compton (2009) also sees as problematic the fact that Hampel and Stickler's model does not include other important skills and competences of online language teaching such as knowledge of language learning theories, assessment and task evaluation and that the authors also ignore that the kind of skills and competence online language teachers should possess are distinct from those needed in other online subjects. Compton (2009) proposes her own model, which divides the skills online language teachers need to master into three areas: technology, pedagogy and evaluation, with a continuum of expertise comprising three levels of competence, from novice, proficient through to expert. For each category, the author provides detailed descriptors, as shown in Figure 2 and as can be seen, at the expert level, (Compton, 2009) she proposes that teachers will be creative in the three areas, which is similar to Hampel and Stickler's highest skill level whereby teachers develop their own style.

Figure 2. Framework for online language teaching skills (Compton, 2009, p. 82)



2.4.3 Success factors in online learning.

Several studies link success in online learning to factors other than teacher's digital competence. Moore and Kearsley's (1996) view of distance education contextualises the responsibilities of the online language teacher in terms of the other stakeholders: students, course developers, site coordinators, tutors, proctors, student support services, management/administrations and teachers. According to Compton (2009), in Moore and Kearsley's view of distance learning teachers and other stakeholders are part of the same system and cannot function without the others. That is, the teacher "humanises the learning environment, facilitates and encourages interaction, organises and presents information, and provides feedback" (Compton, 2009, p. 87).

Alberth (2011), though, relates effectiveness of online learning with six critical factors: (a) teacher characteristics, (b) student characteristics, (c) language skills characteristics, (d) provision of support for both instructors and students, (e) technology and (f) instructional design (pedagogy). We will briefly comment on them all and relate to other studies.

Teacher characteristics

Three are the teachers' characteristics identified by Webster and Hackley (1997) as factors that may have an impact on students' perception of the effectiveness of online learning: (a) attitude towards technology, (b) teaching style, and (c) control of the technology. Alberth (2001, p. 24) summarises this idea as follows:

> Teacher characteristics, such as positive attitude to technology, teaching styles that promote interaction among students and between the students and the teacher, sound facilitating skills, and mastery of basic IT survival knowledge, are among the important characteristics of a teacher that are indispensable to the success of an online mode of instruction.

Comas-Quinn's (2011, p. 218) considers that in online instruction "the shift goes beyond the acquisition of ICT skills (on the part of the teacher) and requires a pedagogical understanding of the affordances of the new medium and an acceptance by the teacher of his or her new role and identity". Her postulations stem from Hampel and Stickler's (2005) and Compton's (2009) work on skills online language teachers need, but also from studies on teachers' opinions as to whether they are keen to use technologies (Kessler, 2007; Rosell-Aguilar, 2007). The teacher's positive attitude and enthusiasm for using technology that Alberth (2011) prioritises is implicit in Comas-Quinn's pragmatic perception of success in online language learning when she argues that "the way in which teachers present and use the different components and tools of a course will greatly influence learners' perceptions of how important and useful these components and tools are" (Comas-Quinn, 2011, p. 220) because students are more cost-benefit oriented (Lockwood, 1995) and spend time on the parts of a course they feel are most valuable to them.

Student characteristics

Learning styles and preferences differ from one learner to another, so online learning may suit certain students' needs better than others (Terrell, 2002). Alberth (2011) points out that while some students may feel at ease without the teacher's physical absence in an online environment, others feel the situation negatively affects their motivation to participate in online discussion and sharing of ideas with peers. The author, thus, suggest that in identical learning environments and in courses taught by the same teachers, students may react differently. This phenomenon somehow relates to the need for learner training.

As teacher and learner roles change in online education, learners need to become autonomous. This means, they not only need training in technological aspects, but also in how best to use technology to be more engaged in their own learning, which will, in turn, lead them to become more

independent learners. Heiser, Stickler and Furnborough's (2013) study into learner training in preparation for online synchronous conferencing in a large-scale program in a distance learning context reflects their constructivist approach to teaching and learning. In their argument for the need for learner training, they posit that learners construct meaning through their often technology-mediated interactions with their environment, and this process can be supported by peers. They adopt an explicitly constructivist approach in designing their learner training in which learners acquire technical skills by being active learners, something which is also a key characteristic of task-based language learning. Similarly, Hubbard (2013) identifies learner training as one of the key strands within technology enhanced language learning environments that he considers CALL researchers need to focus on. As part of his argument, he references Bax's (2003) "normalised" stage of CALL, whereby technology has become fully integrated, considering that when that stage is achieved, learner and teacher training will not be necessary, but in the meantime, it is essential for "effective and efficient use of technology for language learning" (Hubbard, 2013, p. 164).

Language skills characteristics

Alberth (2011, p. 29) argues that teachers and researchers in the field of online learning must face the challenge to "comprehensively scrutinise which language skills are better taught face-to-face; which are appropriate for online; and which can be taught using a hybrid mode, that is, a mixture of face-to-face and online." One of the areas of concern relates to the delivery of corrective feedback. Gurzynski-Weiss and Baralt (2014) concur pointing out the importance of corrective feedback delivered by the teacher. In a similar fashion, Canals, Granena, Yilmaz and Malicka (2020) note the conundrum that asynchronously based online language teaching programs face when it comes to the provision of corrective feedback by the teacher in oral interaction tasks. Samburskiy and Quah (2014) agree with Hampel and Stickler (2005) and Compton's (2009) view that online language teachers need different skills compared to teachers in f-2-f. However, they concur with Compton's opinion that the skills for providing corrective feedback are lacking in Hampel and Stickler's skill pyramid model (2005).

Provision of support for both instructors and students

For Heiser, Stickler, and Furnborough (2013), one key competence that teachers need is the ability to understand social presence in online communication, particularly when use of the target language means dealing with a lack of fluency and lexis, but teachers also need to reflect on the terminology they use to explain CMC tools. The assumption that learners know what to do, technologically and pedagogically is also addressed in their research, and they determine this is not always the case. Part

of the role of the teacher then is to provide effective learner training, both for technology but also for how to be more effective language learners.

White (2014) adopts a different slant, suggesting that there is a lack of research addressing teachers' skills needed at critical points in distance language learning (DLL) courses such as, for example, "orienting students to the DLL context, preparing for assessed work and addressing motivational slumps" (White, 2014, p. 541). White suggest one way of addressing this may be a longitudinal study of the skills and best practices needed by distance language teachers at particular points on a course which should include a parallel phase to understand what students value and require at the same points on a course.

Technology

As we have seen, in the field of online language education, teachers today are not only expected to encourage learners to communicate and develop their communicative competence; they also need to create the optimum conditions for language learning to occur. That is, they have to facilitate and mediate the language learning process by providing appropriate tasks, giving effective and timely corrective feedback in the contexts in which students are working, and directing learners to resources and tools which can help them increase their proficiency. With regards to this latter point, broadly speaking, we could argue that the online teacher needs to be able to handle basic software and hardware issues in order to provide fast replies to students in difficulty. With regards to this point, Alberth (2011) argues that the teacher needs to be enthusiastic about the use of technology and should also have "survival IT skills". This is very similar to Hampel and Stickler's (2005) first level on the skills pyramid (basic ICT competence). However, for Alberth, teachers' technological expertise is not as important as their capacity of showing enthusiasm towards the technology use in the course. He believes this fervour towards technology is essential for promoting similar enthusiasm in students.

At this point, it is important to refer to six key features of meaningful learning identified by Karppinen (2005). According to this author, learning which is meaningful must be:

- *active*, in the sense that learning happens when learners are doing something.
- *constructive* and *individual*, in the sense that meaning is made in a social context, but at the same time learning is an individual affair so that each learner builds on what they already know from their own perspective.
- *collaborative* and *conversational*, whereby learning occurs through dialogue, whether this be spoken or written.

- *contextual*, so that learning is context-related and not a series of discrete items to acquire.
- *guided*, in the sense that a teacher or more able peer can support the learner during the learning process.
- *emotionally involving* and *motivating*, in the sense that in order for learners to be truly invested in their learning, they must be emotionally connected to it. Masats, Juanhuix and Albines (2017) adapt Karppinen's terminology to "emotionally **engaging** [emphasis added] and motivating" (2017, p. 185) and in chapter 3 we will see that involvement is closely related to engagement in the literature.

These characteristics of meaningful learning are intertwined with the construct of learner engagement: educational institutions which provide meaningful learning contexts are likely to be more successful in engaging their learners.

2.5 Future Research Perspectives

In this chapter we have seen that technology does not only provide new affordances for learning and teaching languages; it also offers more easily accessed and increased quantities of data for researchers to work with. In this final section about the contribution technology has to language learning, we consider two main areas: firstly, new types of research which are available with new technologies, and secondly, new ways for researchers to work together.

Wang and Vásquez (2012) review research into Web 2.0 and second language learning and surmise that SLA has undergone a paradigm shift from cognition based theories to social learning theories, from an acquisition metaphor to one of participation, and from L2 learning to L2 use. Wang and Vásquez suggest that this shift has occurred alongside the changes in Web 2.0 technological functionalities such as participation, communication, data sharing and collaboration. Following the work of Sykes, Oskoz and Thorne (2008) and Warschauer and Grimes (2007) Wang and Vásquez (2012, p. 413) state that "Web 2.0 technology in many L2 learning contexts has transformed pedagogy, curriculum design, the conception of language learning, and even the research in this field".

In terms of new types of research made possible by new technologies, Blake (2007) suggests that the data from many of the programs that can provide automated feedback, either with multimedia glossing to support reading and listening comprehension, or with interactive programs such as "chatterbots" which act in the way a sympathetic listener might. In turn, automated feedback can provide researchers with "new sources of student behaviour data" (Blake, 2007, p. 80). In this line, Halvorsen's (2012) study into the patterns of emoticon use, discussed in detail above in section

2.2.1, is an example of another area of research which would not be possible without the existence and use of new technologies used in language learning because emoticons materialised alongside the emergence of CMC.

In her review of studies on the comparative effects of interaction in SCMC and face-to-face context on a range of L2 learning outcomes, Ziegler (2016) also suggests areas where future research into the reciprocity between TBLT and CALL is needed, specifically for how TBLT can make optimum use of new technologies such as digital game-based language learning, mobile-assisted language learning, social networking and virtual environments. Ziegler also recommends more work on the quantity and quality of interaction during task based language learning, more quantitative studies into the correlation between learner performance and learners' affective factors, such as anxiety and motivation, more methodologically rigorous studies into task repetition and further work on the differential effects of task design and task implementation features.

New technologies also lead to new ways for researchers to collaborate. In this sense, Dooly (2015) provides a detailed review of the research potential the communications revolution has provided. She argues for transnational alliances to bridge gaps in the continuum of knowledge-building in the field of digitally supported communicative language teaching and learning (DSCLT). Dooly (2015) coins this term to incorporate CALL, CMC, TELL (technology-enhanced language learning), and MALL (mobile-assisted language learning), proposing that the focus should be on the symbiosis between technology and Communicative Language Teaching: social media, CMC-based activities, formal and informal learning, the role of educators, ICT literacy. Furthermore, as Dooly (2015) reports, new technologies enable researchers to work together more easily to improve teaching strategies and policies and the potential benefits to language education cannot be underestimated. As Dooly (2015, p. 180) writes, "an international community of researchers may help highlight submerged assumptions simply through the 'collision' of different mindsets and sociocultural frameworks". Furthermore, dissemination at a global level can be facilitated. However, while technological improvements should have led to more digitalized collaboration by researchers at a global level, this has still not happened. Dooly (2015) suggests various reasons for this, including the problem of dealing with international data in an ethical way, the existence of national, cultural and geopolitical barriers which may generate legal issues, and establishing transnational guidelines for online data handling to a rigorously high standard. The author argues, though, that researchers should be doing more of what we expect our language learners to do; that is, collaborating. Finally, as Schulze and Smith (2012) claim, if research is to have an impact on teaching practice, it needs to be disseminated and technology has a crucial role to play.

We have seen from this overview of the changes in language learning theories and approaches that the prevailing paradigm for online language learning has moved away from Interactionism and is now firmly rooted in Socioculturalism. Task-based and project-based approaches, deriving from communicative language teaching, are considered the most effective pedagogical approaches, particularly within technology enhanced learning environments. As a result, participants in the process of online language learning, that is, teachers and learners, are affected by social and cultural factors and these condition their roles in the language learning process.

Chapter 3 Online Discussion Forums for Language Learning

In chapter 2, we reviewed the evolution of language learning theories and pedagogical approaches and the impact that technology has had on language learning, teaching practices and research in CALL over the last half a century. We also considered the literature surrounding task-based language teaching because the present research investigates asynchronous discussion forums in the context of an English language course which adopts a task-based language teaching approach. Finally, we also examined how the roles of teachers and learners in online language learning have changed and identified essential features of meaningful learning (Karppinen, 2005), which we would argue are closely related to learner engagement, the central theme of this thesis and of this chapter. Here we will first examine the literature on classroom communication in asynchronous discussion forums, then we will explore the notion of learner engagement and, finally, we will discuss a key theme in distance learning, that of social presence. In the context of the present research, we relate learner engagement and social presence, as social presence will be used as a way of evaluating learners' emotional engagement with the tasks at hand and with the process of language development.

3.1 Asynchronous Discussion Forums

According to de Wever, Schellens, Valcke and Van Keer (2006), asynchronous discussion forums have become the most common communication tool used in online learning contexts after email. Qualitative analysis of forum transcripts reveals a mix of academic register and conversational interaction (Kol and Schcolnick, 2008) and this is why asynchronous discussion forums have been referred to as a "hybrid mode of spoken-like/written-like communication" (Delahunty, 2018, p. 12).

There is a substantial body of research in the use of discussion forums as tools to assist language learners. Brooke (2013) examines the development of learner autonomy of adult university learners using online learning environments such as Moodle and Blackboard and points out that forums offer a supportive learning environment for language learners because this tool can foster the development of metacognitive and cognitive linguistic capacities among learners, can create an environment appropriate for instructors to provide feedback, and can lead learners to develop a sense of community, which, in turn, will foster discovery learning. These ideas coincide with the most recurrent topics present today in online language education research. We will now proceed to review the most relevant lines of investigation for the focus of this thesis, which we have grouped into three areas:

- Effectiveness in the use of asynchronous forums for language learning
- Learning within a community

- Interaction and participation in asynchronous forums

3.1.1 Effectiveness in the use of asynchronous forums for language learning.

Several studies have focused on the effectiveness of discussion forums for language learning. Most of them coincide with de Wever et al.'s (2006) view that asynchronous forums in online language classrooms offer two principal advantages: firstly, learners have ample opportunities to interact with other participants, regardless of where they are, and secondly, they offer participants time to read, think and reflect before posting their own contributions. This second advantage is particularly relevant in language learning. On the one hand, forums create a low-pressure environment that benefits learners who experience anxiety in the classroom (Arnold, 2002). On the other hand, having ample time to answer enhances the production of better and more complex interventions. Similarly, Dysthe (2001) claims that asynchronous discussion forums offer two key affordances; firstly, the fact that forums are a written medium where participants have time to participate has a positive impact on the amount they write and secondly, unlike synchronous contexts where participants generally write to one person, in asynchronous discussions, they write to many. Having an authentic audience to write to is also a key advantage which Zheng and Warschauer (2015) note and they add that this promotes fast feedback from others, which is beneficial for learning.

In this sense, Meyer (2003), who compares face-to-face class discussions with discussions in threaded forums by way of end-of-course evaluations of the two modes, also finds that forum discussions give learners the time they need to think more deeply and decide what they want to write. Similarly, Chen and Looi (2007), who investigate a blended learning context and compare the inclusion of online discussions in and out of the classroom, confirm the affordances that online forums offer for learning, which they posit are the equalising of participation in discussions, the creation of a permanent record which can be referred to for subsequent reflection and debate, the facility of tracking students' online activity, and the flexibility in terms of time and physical presence. The authors also find that the incorporation of online discussion forums in face-to-face class time encourage learners to develop learners' critical thinking and reflection skills. In another study, Dennen (2005) investigates the impact that activity design and facilitation factors have on different dimensions of student participation in forums and the quality of resulting interactions. Citing Picciano (2002), Dennen (2005, p. 129) proposes that "design and facilitation must work together in order to ensure learner participation, which in turn will impact performance". This blurring of the roles of course designer and course facilitator may be problematic in particular institutions, but it can be overcome by fluid communication between the staff carrying out these two roles.

The fact that online discussions trigger the development of critical thinking skills is particularly relevant for learning as it offer learners possibilities to develop metalinguistic awareness and reflect both on the content (meaning) and on the structure (form) of their forum posts. Delahunty (2018) argues that participation in forums generates the need for participants to "listen" to each other to be effective discussants. It also means that while active forum posting, and therefore visible participation is a necessary activity for learners, they also need to read posts from others critically in order to choose which posts to reply to, and then use language to explicitly show that they are relating their own contributions to those of others. On the other hand, authors like Tudini (2005) examine student's metalinguistic reflection in forums and emphasise "that asynchronous computer-mediated written communication (ACMWC) thus promotes the 'noticing' of language errors and learner engagement in self-repair" (Brooke, 2013, p. 576) and, as a result, learners produce higher quality discourse because the medium allows learners time to consider their contributions to meaningful social interaction.

Finally, the effectiveness of forums for language learning cannot be measured if teachers are not clear about how to assess their use. In this sense, Kol and Schcolnik (2008) analyse forum discussions in courses of English for academic (EAP) purposes with a particular focus on how forum posts should be assessed. They point out that while in academic contexts, learners' work is evaluated mainly in terms of accuracy of the content and development of the main ideas, in language learning contexts, the language used by the learners plays a key role because it can indicate quality at a particular point in time but it can also provide evidence of language development. The authors posit that language teachers may prioritise fluency over accuracy but both deserve to be considered. They suggest that language complexity may also be evaluated, both in terms of learners' use of lexis and of grammar. As they explain, writing in CMC contexts lies along the writtenness-spokenness continuum and as such, assessment should also consider the learners' ability to take part in a written discussion so that they develop 'interactive competence' (Kramsch, 1986; Mehan, 1982). In addition, Kol and Schcolnik (2008) survey the learners in their study and interestingly find that while most of them consider they had improved over the course, subsequent analysis of the complexity of their forum posts does not reveal significant improvement. On the other hand, qualitative analysis of posts does show deep student involvement with both course content and their peers and it also reveals learners express themselves through a combination of academic register and conversational interactions, with the latter including expressions of feelings. As a result of their content analysis of forum posts, the authors subsequently revise their initial assessment criteria, which had focused on reflection and interaction indicators only, and add two further criteria: firstly, clarity and accuracy of the language used (to encourage learners to improve in terms of quality) and secondly, referencing specific

information in texts that learners are writing about (to encourage learners to write in an academically responsibly way). Also related to research on instruments of discussion forum assessment, Rovai (2007) proposes that teachers should create rubrics to assess students' engagement in productive discussions and that these rubrics should be shared with learners. The author suggests that these rubrics be designed to encourage learners:

- to be active, by posting and reading others' posts regularly;
- to attend to the content of their posts in terms of accuracy and clarity;
- to ask questions which promote discussion;
- to show evidence of collaboration with peers;
- to show the ability to develop professional relationships through the use of a an appropriate tone whereby posts are sociable, sensitive, discerning, kind and gentle; and
- to show evidence of proofreading where errors of spelling and grammar are minimal appropriate formatting is used.

3.1.2 Learning within a community.

Birch and Volkov (2007) investigate the use of discussion forums among learners of English as a Second Language (ESL) and find forums foster the development of both cognitive and social learning competences. The ESL students in their study point to the fact that being part of a learning community is beneficial for their learning for several reasons: firstly, because they can share their views and perspectives with others; secondly, because they receive feedback on their own views and experiences from others; but thirdly, relating to the social affordances of online discussions, the students feel that they are able to build closer relationships with their teachers and develop friendships with peers.

The idea that for discussion forums to be successful they need to foster this sense of community is widely accepted within the research community and has been the focus of inquiry of many studies although not all focus on language learning. Rovai (2001), who explores the level of classroom community achieved over a five-week fully online course, identifies four dimensions which make up what he refers to as a "sense of classroom community index":

- Spirit, which refers to participants' sense of belonging to a group;
- Trust, which relates to the action of relying on the feedback group members give to each other;
- Interaction, which is nurtured by the feeling that members may benefit through interaction; and

- Learning, which is based on the belief that learning may come about due to community discussion and that knowledge can be constructed through the community.

This link between discussion interactions, community building, and learning is also investigated by Dawson (2006) whose study seeks to unveil the relationship between interaction and students' perceived sense of community. The author considers that data from discussion interactions can indicate community development at a specific time and "multiple snapshots provide an ongoing indicator of community development" (Dawson, 2006, p. 495), which allows instructors to intervene, when necessary, and provide additional activities designed to foster increased levels of peer discussion. One key finding in his research is that the quantity of posts learners produce alone is not a direct indicator of community development. As Dawson (2006, p. 505) explains, "forums exhibiting a high volume of communication traffic do not necessarily equate to the establishment of a strong sense of community". However, he does conclude that higher levels of social interplay among students and teachers do have a positive impact on community development.

In another study related to community development, Rovai (2001) correlates data from a self-report instrument designed to measure the classroom community index with observable platform data. He finds that all learners take advantage of the flexibility of the course, which is accessible 24 hours a day and seven days a week. This confirms that a sense of classroom community can be achieved if interaction is fostered among the participants by instructors who value community. In a later paper, Rovai (2007) claims that a crucial aspect of online learning is that learners need to be evaluated with rubrics designed to encourage positive and constructive interpersonal exchanges as we detailed in section 3.1.1.

Social presence is closely related to the concept of community building and is the focus of a large body of research. This will be discussed in more detail in section 3.3, particularly in relation to its importance in discussion forums and how it promotes participation, increases student retention, facilitates cognitive and collaborative learning and its relevance for learner engagement.

3.1.3 Interaction and participation in asynchronous forums.

In chapter 2 we have seen that interactionist/socio-constructivist researchers believe that learning takes place in talk-in-interaction because they conceptualise the learners' act to participate in a pedagogical task as a situated social practice through which they work in joint collaboration with others to construct meaning and to undertake the necessary actions for their accomplishment. In the previous two sections of this chapter we have seen that online discussion forums generate discourse because they allow learners to write and reflect on posts from the learning community.

Here we will consider the studies that examine interaction and participation in asynchronous forums.

Sinclair and Coulthard (1975) proposed the so-call IRF exchange structure to describe that classroom discourse typically follows a predictable three-part structure. IRF stands for "initiation-response-feedback" (IRF) exchanges. In IRF exchanges, the teacher initiates the majority of exchanges, often in the form of a question, the learner responds and the teacher closes the exchange with some sort of feedback, or evaluative statement. The work of Sinclair and Coulthard has had a great impact on research in education, especially in the field of conversational analysis because it has been able to describe how teachers and students communicate. However, in the context of computer mediated communication, which is asynchronous and textual in nature, such conversational exchange patterns do not apply. Asynchronous discussion forums are democratic by default in the sense that all participants, learners and teacher, can post, read and reply to everyone. At the same time, all participants can choose whether or not and how often to post, read and reply to everyone. Because of the asynchronous nature of forums, participants may be doing these different activities over a period of time. This is entirely consistent with encouraging autonomous learning, without undermining the role of the teacher as we discussed in chapter 2. Understanding the nature of the educational exchanges in discussion forums is a pathway to uncovering the roles each participant plays. In this sense, understanding participation and interaction patterns within the discussion forums will be critical for determining their roles in the learning process.

Moreover, high frequency levels of interaction increase the effectiveness of distance education (Fulford and Zhang, 1993). In this sense, the asynchronous discussion forum is an effective tool for promoting interaction among learners, between learners and teacher and tasks. However, for interaction to take place, learners and teachers need to be eager to participate in forum discussions. One way to encourage student participation is that of peer facilitation, which is investigated by Hew and Cheung (2008). The authors report that prior to their study, while there is considerable research in the area of instructor facilitation, there is little which focuses on student or peer facilitation. They define peer facilitation success in terms of depth of threads, and specifically in discussion threads which have a depth of at least six levels of posts (in a thread of two levels, participants reply to initial posts only, in a thread of three levels, participants reply to replies to initial posts and so on). The authors consider that deeper threading levels come about as the result of successful peer facilitation strategies and within these deeper threads, they identify five key peer facilitation strategies: (a) sharing opinions or experiences, (b) asking questions to others, (c) showing appreciation, (d) personally inviting others to contribute, and (e) summarising the contents of others' posts.

In a similar vein, interaction is the focus of studies by Beuchot and Bullen (2005) and Zhu (2006). Beuchot and Bullen (2005) investigate the relationship between interaction and interpersonal content of a group of doctoral students in discussion forums used as part of their Education programme over a period of three semesters. This longitudinal approach is particularly appropriate for a focus on interpersonal content of posts and the development of groups, but it is also notable because as the authors point out, most research into forum interaction is based on single courses which generally last less than a year. In their study, the researchers categorise forum posts as being active (posts which do not refer to other posts), reactive (posts which refer to messages posted immediately before) and interactive (when a thread is generated with a series of interrelated posts). This proposal is partially related to the five-category system Constantino (2002) had already proposed to describe participation in forums:

- Additive participation. Posts give information or opinions on the topic at hand but do not refer to other posts. This would correspond to what Beuchot and Bullen (2005) refer to as active posts.
- Interactive participation. Posts refer to other interventions as a means to give new information or express an opinion. This would embrace Beuchot and Bullen (2005)'s categories of reactive and interactive posts.
- Directive participation. Posts are generated from a position of authority in the forum with the objective of either maintain or shift the topic of conversation. Posts can also offer evaluation judgements or encourage participation.
- Disruptive participation. Posts shift, intentionally or unintentionally, the topic of conversation and break the communication flow.
- Anomalous unexpected participation. Posts relate to the topic of discussion but it is out of context, either because it is produced by somebody external to the group or because it contains offensive language and opinions or reveals an aggressive attitude.

A few years later, Constantino (2005) reformulated his proposal and described two other modes of forum participation:

- Recapitulative participation. Posts are used to summarise or synthesise previous posts. Information is presented orderly but does not add more data nor presents an alternative viewpoint to the one summarised.
- Creative participation. Posts widen the scope of the topic being discussed. They may or may not refer to other contributions but serve various purposes: they can also analyse needs, detect conceptual obstacles, estimate results or project alternatives, etc.

Interaction is also part of the focus in Zhu's (2006) study together with the examination of students' effort investment in understanding the topic of a forum discussion, namely learners' cognitive engagement. Zhu posits that while cognitive engagement is observable in face-to-face learning contexts, it is more challenging to discern in forum discussion posts and for this reason, devises an analytical framework which he utilises to categorise forum posts. These categories are:

- Questions, which may be seeking information or inquiring in nature,
- Statements, which may be responding, informing, explaining, analysing, synthesising and evaluating,
- Reflection, which may be in terms of reflecting on changes, or the use of cognitive strategies,
- Mentoring, which involves explaining how understanding is reached, and
- Scaffolding, which guides students in discussing concepts.

Zhu uses these categories to classify posts in terms of how effectively they enrich the discussion among students of and combines this content analysis with social network analysis as a way of unveiling the structure of the ensuing forum discussions. Zhu finds no direct relationship between levels of cognitive engagement and types of interaction and warns against discussion forums becoming "an electronic collection of individual reflection papers and the instructor's feedback" (Zhu, 2006, p. 474). This is a particularly valid point, especially for courses with subject content as in Zhu's study. However, evaluating cognitive engagement in language courses needs different instruments because learners may not have the linguistic resources to take part in more critical discussions. For language courses, focusing on complexity, accuracy and fluency of language used by learners in their course work would seem to be an effective way to account for how cognitively engaged learners are in forum discussions, particularly if this is measured over a period of time.

In another study investigating the effectiveness of discussion forums Lowes, Lin and Wang (2007) investigate online professional development courses and correlate participation, interaction and content analysis of the data from their VLE with student satisfaction surveys. They conclude that higher rates of participation are irrelevant; rather it is the content and sequence of participation that is crucial for a successful forum discussion. The authors also make the point that if facilitators can have these data in time to step in and adapt or change their approach, forum discussions may be more fruitful for learners. Another author who examines the correlation between participation and student's answers in satisfaction surveys is Swan (2001), who concludes that perceived interaction with other students results in higher satisfaction with courses and in perceived learning outcomes.

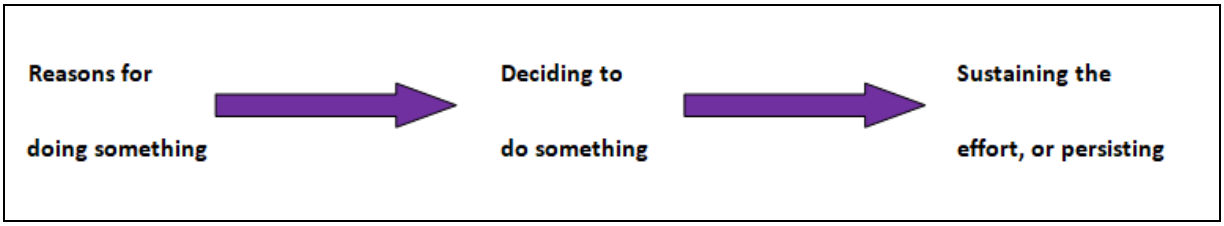
Finally, Rodríguez-Juárez and Oxbrow (2010) find that student proficiency and motivation are unrelated to levels of participation in forums and overall, it is lower level students who take part more often in forums. The authors propose that for forums to be effective for higher level students, more teacher feedback and more learner autonomy is necessary because these students need to be made aware of how the extra practice can be beneficial to them. A claim on the importance of the type of interaction in forums is also made by Delahunty (2018), whose study reveals that student-driven discussions which are voluntary and do not include lecturer modelling tend to lead to more independent posting behaviours, whereby learners avoid linking their posts to those of others. The author concludes that strong interpersonal relationships are needed if the forum is to be a space where learners feel safe; she also notes that face-threatening communication, such as challenging others, is more complicated in online discussions than in face-to-face situations. Delahunty (2018) therefore proposes that lecturer modelling or moderation is crucial for the construction of appropriate interpersonal relationships among participants. Both teachers and students can use scaffolding procedures to help other learners develop their interactional competence, which Walsh (2014) refers to as the "fifth skill". In the case of teachers, Walsh (2014, p. 5) explains that "by shaping learner contributions and by helping learners to really articulate what they mean, teachers are performing a more central role in the interaction, while, at the same time, maintaining a student-centred, decentralised approach to teaching." In this vein, Robbins (in press) examines the nature of language teacher posts in language learning forums, and identifies six different types of posts that teachers employ: (1) posts to set up tasks or provide instructions, (2) posts to thank learners for their participation, (3) mini language quizzes, (4) posts which include corrective language feedback, (5) posts in which the teacher takes part in the task, and (6) posts in which the teacher takes part and also asks for more details. According to the findings in this study, Robbins concludes that the last two types of posts tend to encourage higher levels of participation among learners. We turn now to review research which focuses on the central theme of this thesis: learner engagement.

3.2 Learner Engagement

Two recent publications which focus on learner engagement in foreign language learning begin in similar ways, by suggesting that the goal for most language teachers is a classroom full of enthusiastic, motivated and happy learners who are actively involved and on task (Oga-Baldwin, 2019; Mercer and Dörnyei, 2020). For the vast majority of teachers, this ideal classroom situation may happen only rarely but this does not prevent teachers from striving to achieve it. However, learner engagement is challenging to define in a tangible and practical way and in this vein, theorists and researchers have proposed different ways to conceptualise and measure it.

Learner engagement is not a new concept, as will be explained below, but it is still a relatively new area of research for second language learning and teaching (Mercer and Dörneyei, 2020), and even more so for online language learning contexts. The flexibility that online courses offer, both in terms of physical and temporal presence mean they seem set to remain a permanent fixture in education and it is this flexibility which is extremely appealing and initially a strong motivational aspect for signing up. However, as Williams and Burden (1997) suggest in their three-stage model of motivation displayed in Figure 3, while motivation can provide the reasons for doing something and help with the decision to follow through, this effort needs to be sustained in order for learning to occur.

Figure 3. A three-stage model of motivation (Williams and Burden, 1997, p. 121)



This sustained effort or realisation of motivation can be thought of in terms of learner engagement. Learner engagement is often referred to in the literature as student engagement and here we use both terms interchangeably.

3.2.1 What is engagement?

In French, the term 'engagé' has been used since the 19th century to describe people who are socially or politically active and, according to Merriam-Webster, English speakers have used the same term to indicate passionate commitment to a cause since 1946. Among its various meanings, the verb 'engage' can denote actions such as to offer something as backing to a cause or aim, to provide occupation, to hold someone's attention, to deal with something, especially at length, or to become involved with someone or something. It might be said that engagement is part of what makes us human. We 'engage' in fulfilling our basic needs of obtaining food, water, keeping us warm and resting, staying safe; in fulfilling our psychological needs such as building relationships, achieving prestige and feeling accomplished, and in the fulfilment of personal needs. But we do not accidentally find food, or meet any of our needs without taking some form of deliberate action; we make an effort and we put in the time required to fulfil our needs. Education is no different. To achieve learning objectives, spending time on and giving attention to educational pursuits are both required, whatever our starting point may be. Research shows that "multifarious benefits occur when students are engaged in their own learning, including increased motivation and achievement" (Sinatra, Heddy and Lombardi, 2015, p. 1). For this reason, maximising learner engagement is a crucial and relevant objective for all educational contexts.

3.2.2 Involvement as a precursor to engagement.

Research in the area of student engagement can be dated back to the 1930s when the educational psychologist Ralph Tyler (1949) investigated the relationship between how much time students spent on their work and the effects on their learning (Axelson and Flick, 2011). However, most researchers agree that it was the work done by another educational psychologist, Alexander Astin (1984) in the area of student involvement which constitutes the origin of today's research on engagement. Astin (1984) set out to explain what was then known about environmental influences on student development in terms of student involvement in their learning milieu. He was confident his theory could be used by researchers, administrators and teachers to improve learning environment design with consequential benefits for education. For Astin (1984), involvement refers to the physical and psychological energy students devote to both general and specific aspects of education. He believes that student involvement occurs on a continuum, it has quantitative and qualitative aspects and it is directly related to learning and development. The author also believes that the effectiveness of an educational system should be measured in terms of how well it maximises student involvement. He challenges previous learning theories, which assumed that exposing learners to subject-matter in a "teacher-as-expert" manner enable students to acquire knowledge. Instead he advocates for championing active student participation and putting the emphasis on what students do and how institutions can create the optimum conditions for learning.

A decade after Astin's work on student involvement, student engagement begins to be studied and discussed more widely in the field of education (see, for example, Rovai, 2007; Zhao and Kuh, 2004; Zhu, 2006; and Dixson, 2010 for a detailed review of literature prior to 2010). Trowler (2010), who examines the work done in North America and Australasia through massive national surveys as well as research in the UK, argues that learner engagement is based on other traditions, such as student feedback and approaches to learning. More recently, Schindler, et al (2017) review literature in the area of computer-based technology and student engagement and identify opportunities for future research, including examining the effect of collaborative technologies such as web-conferencing on emotional and cognitive student engagement. In fact, these authors point out that after digital games, web conferencing seems to positively influence student engagement the most. It seems that student engagement may be "one of the hottest research topics in the field of educational psychology" (Sinatra et al., 2015, p. 1). With general agreement that learner engagement has a critical impact on learning outcomes, it remains a complex concept to define, let alone measure. In the following section, we explore what is meant by learner engagement and the different ways learner engagement has been defined and measured.

3.2.3 What is learner engagement?

History has always acknowledged individuals with exceptional ability, whether in sport, the arts or science and researchers have taken a keen interest in them with the aim of understanding where this exceptionality comes from. Ericsson, Krampe and Tesch-Romer (1993) present a theoretical framework to explain expert performance and propose that the role of "deliberate practice" is much more significant than innate genetic factors. This concept of "deliberate practice" sits well with Astin's theory of involvement in the field of education. The authors (1993, p. 400) claim that "the difference between expert performers and normal adults reflect a life-long period of deliberate effort to improve performance in a specific domain".

The National Survey for Student Engagement (NSSE) has been reporting annually since 2000 on the results of college student questionnaires focusing on student engagement in the US. The definition for student engagement on their website includes two parts: "the amount of time and effort students put into their studies and other educationally purposeful activities", and "how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning". This definition is helpful as it includes both the learner and the learning context and there are clear links to Karppinen's (2005) critical features for meaningful learning which we reviewed in chapter 2.

3.2.4 How has learner engagement been conceptualised?

Theorists have conceptualised learner engagement in similar ways, as consisting of three dimensions: behavioural, emotional and cognitive engagement. As we will comment on later, several theorists have proposed a fourth dimension to engagement, namely agentic engagement (Oga-Baldwin, 2019). This section begins with a discussion of the three-dimensional construct which has dominated the literature in learning engagement and then conclude with an examination of the validity of the most recent approaches.

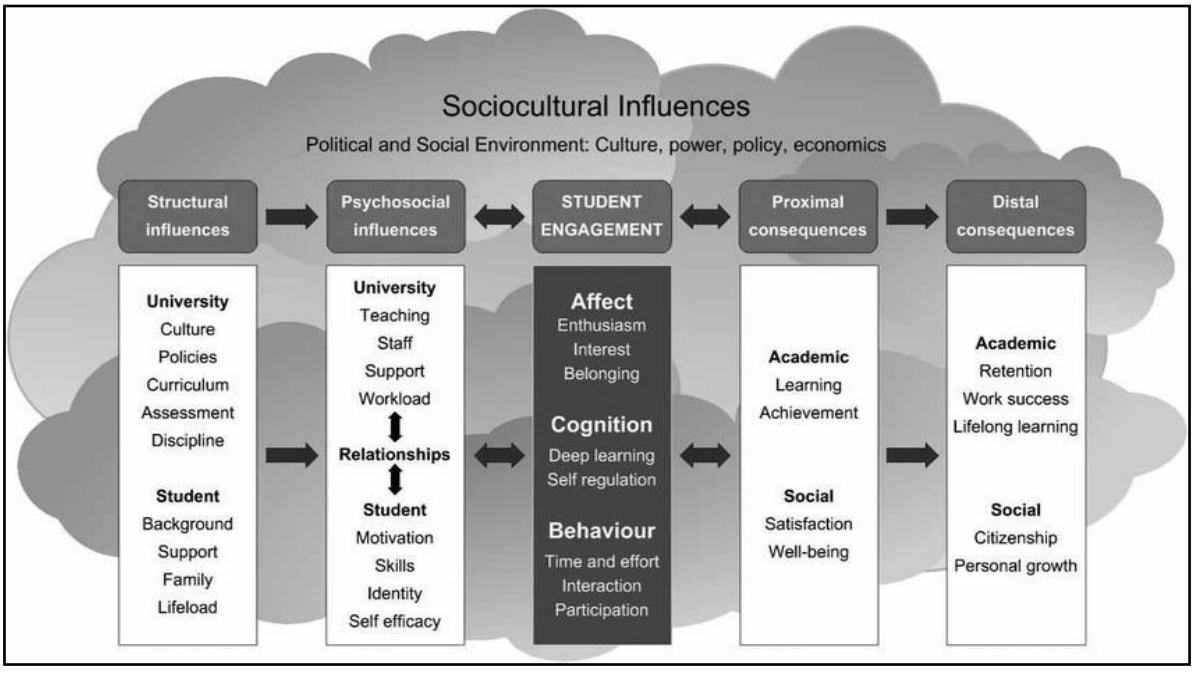
In the early 21st century engagement was considered to be the remedy to falling academic motivation and achievement (Fredricks, Blumenfeld and Paris, 2004). It was deemed to refer to how learners behave, feel and think in terms of behavioural, emotional and cognitive involvement in their learning. Fredricks, Blumenfeld and Paris (2004) consider that behavioural engagement consists of three parts: firstly conduct, secondly involvement in learning and academic tasks and thirdly participation in school-related, but non-academic activities. Emotional engagement is described as relating to learners' affective reactions and includes emotions such as interest or boredom. The authors argue that emotional reactions to the institution or teacher, or feelings of belonging and

value may also be relevant to understand learners' engagement. Cognitive engagement is referred to in terms of investment in learning, degrees of self-regulation or the employment of learning strategies.

In a comprehensive review of research in the area of student engagement, Trowler (2010) agrees with the three-dimensional view of behavioural, emotional and cognitive engagement, but adds to the concept by proposing that each dimension should be considered in terms of positive and negative poles, together with a non-engagement point being between the two. As Trowler (2010) argues, 'positive' engagement refers to productive engagement and 'negative' engagement includes challenging or confrontational attitudes to learning. She goes on to explain that learners might engage in different ways with each dimension and this seems to be a good justification for ensuring that each type of engagement is measured: to provide a complete picture of each learner's involvement in their learning. When defining learner engagement, Trowler (2010) refers both to the student perspective put forward by Kuh, Kinzie, Buckley, Bridges and Hayek (2007) whereby student participation leads to increased learning outcomes and also to the institutional perspective, in which it is the institution's responsibility to do their utmost to involve and empower learners in the learning process.

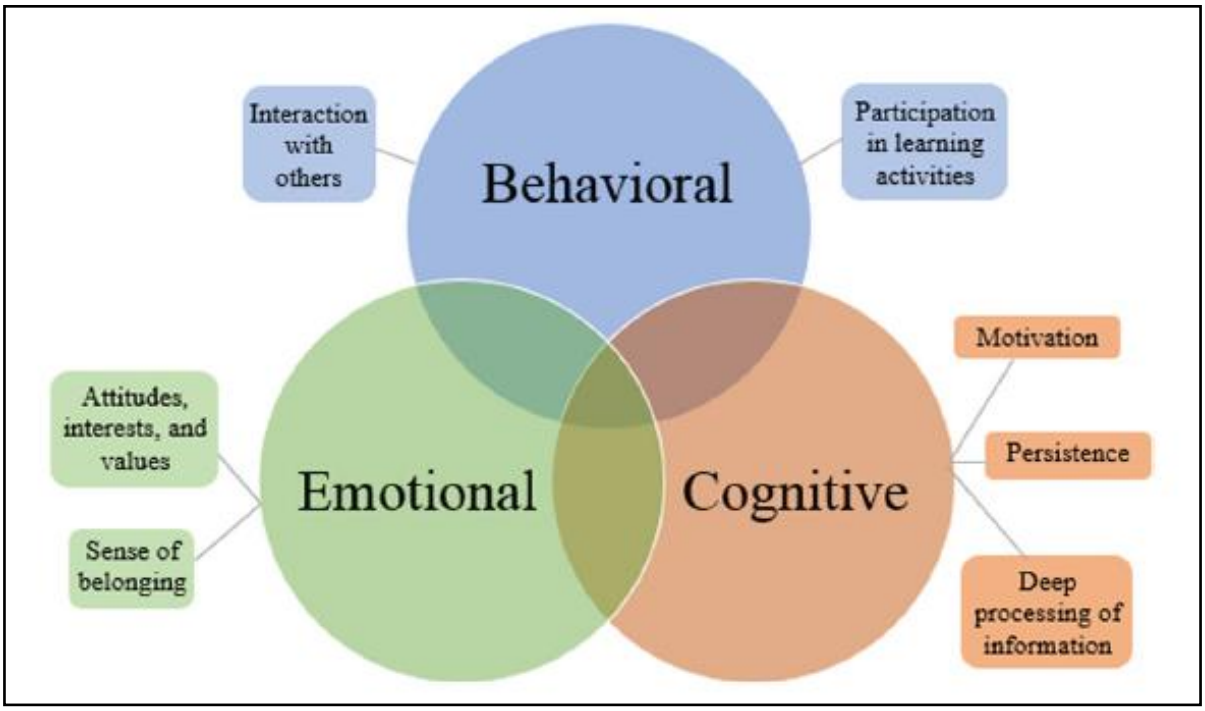
Kahu (2013) agrees with these three dimensions of learner engagement and in her review, she considers different perspectives adopted in previous research before proposing her framework, as shown in Figure 4.

Figure 4. Conceptual framework of engagement, antecedents and consequences (Kahu, 2013, p. 766)



This conceptual framework adopts a sociocultural approach and refers to cultural, power, policy and economic influences on student engagement. It also includes respective antecedents and consequences of student engagement. In essence, Kahu brings institutional and family influences together with psychological influences, in terms of the relationship between the university and the student's identity and self-efficacy as well as considering the proximal and longer term consequences of positive student engagement. Another conceptual model of learner engagement proposed by Schindler et al. (2017) concurs with the three dimensional approach to engagement previously outlined. Figure 5 shows how these authors consider the relationships between the dimensions and the respective indicators in online contexts.

Figure 5. Conceptual framework of types and indicators of student engagement (Schindler et al., 2017, p. 5)



According to Schindler et al. (2017), behavioural engagement refers to observable student behaviours and, for this reason, it is in line with Astin's (1984) original construct of student engagement, where quantity and quality of effort are the key indicators. However, the authors claim that the only way to understand students' emotional engagement is by asking students, through questionnaires for example. For Schindler et al. (2017), cognitive engagement is conceived in terms of understanding students' motivations to learn, persistence to achieve learning objectives and deep processing of information. However, this last dimension is perhaps the most complex to measure, especially in a language learning context where learners may not have the linguistic resources necessary to express depth of information processing effectively. In terms of the ICT tools they

report on, web-conferencing is included, albeit synchronous versions of this technology. They suggest that positive cognitive and emotional engagement results may be related to the fact that web conferencing technologies include “many features that promote active learning” (Schindler et al., 2017, p. 8).

The concept of facilitating learner engagement through educational technology is explored exhaustively in Bond and Bedenlier (2019), who offer a bioecological framework of learner engagement by exploring “the microsystemic facets of technology, teacher and curriculum” (2019, p. 1) which affect student engagement. They uphold the three dimensions of engagement and in a similar approach to Schindler et al. (2017) discussed above, put the learner in the centre of a multi-layered system, from the microsystem of the institution to the macrosystem of the student’s political and social environment. In terms of suggestions for future research, they strongly encourage researchers to adopt a clear conceptual framework for investigating student engagement either by focusing on one dimension at a time or all three together.

Finally, Oga-Baldwin (2019) offers a fourth dimension for a learner engagement model in her review of the engagement process in foreign language learning. Up to this point, theorists had conceptualised engagement in terms of behaviour, emotion and cognition, but Oga-Baldwin also includes what she terms as ‘agentic engagement’. This refers to what learners bring to the educational context and contribute to the quality of instruction, which fits well with socio-constructivist approaches in language learning. In this sense, actions such as asking for clarification have an impact on how teachers perceive them. In essence, there is a strong connection with language learner autonomy, in that for learners who take an active role in changing their learning environment, this may lead to increased levels of academic success. However, as Oga-Baldwin (2019) concedes, agentic engagement might be closely intertwined with cultural traditions, as learners in certain contexts may be less inclined to adopt active attitudes and challenge their learning environment. In any case, this is a new avenue of research in student engagement which may be particularly interesting to consider as online educational institutions seek to appeal to international students. One crucial point for the present research in Oga-Baldwin’s work is her criticism of previous studies on emotional engagement. As she argues, many studies in this area are limited to identifying positive or negative emotions in learners. Oga-Baldwin explains that actions designed to promote behavioural engagement are likely to have a positive impact on emotional engagement and conversely classrooms that cannot foster behavioural engagement may “induce greater emotional distance from both the classroom and the learning material” (2019, p. 5). In the

present research, an alternative approach is adopted to evaluate learners' emotional engagement, that of observing participants' social presence which will be discussed in section 3.3.

3.2.5 Analysing learner engagement in online contexts.

As we have seen in the previous section, learner engagement has been the subject of studies both in general online educational contexts and in online language learning contexts, but methodological approaches have varied. While some studies observe learner activity by focusing mainly on participation and, in some cases, achievement of learning outcomes, others have been based on student questionnaires with the aim of finding out about learners' opinions. Several studies adopt a mixed approach, combining data obtained from observing learners with data from questionnaires or interviews to participants.

3.2.5.1 Observing forum activity.

Pawan, Paulus, Yalcin and Chang (2003) analyse the patterns and types of collaborative interactions in discussion forums which are used within three online language-related courses addressed to pre- and in-service language teachers. This study is not framed within student engagement per se but the findings are relevant in terms of behavioural engagement research because the study includes participation and interaction results, and it also addresses cognitive engagement. The authors conclude that without explicit teacher guidance and 'teaching presence', students are likely to limit their contributions to a series of monologues. As a result, they propose three intervention strategies which can be used: firstly, structured classroom discussions, in which participation requirements are clearly outlined in the syllabus, with the instructor modelling the length of responses; secondly, demonstrating overt instructor facilitation actions and adopting a leadership role; and thirdly, requiring students to self-code their responses. This last suggestion is appropriate in this study because the participants are not only highly competent linguistically speaking, but also trainee teachers with metacognitive abilities and skills. However, one could argue that regular language learners would most likely need a considerable amount of training to be able to carry out this task by themselves.

More recently, Rienties, Lewis, McFarlane, Nguyen and Toetenel (2018) carry out a large-scale investigation into the role of learning design to understand student engagement in virtual learning environments (VLE). They measure the average time spent by students on their VLE per week and the average time spent per session and then calculate the times spent on the different types of learning activities. Similarly to Pawan et al.'s (2003) study discussed previously, the focus of Rienties et al. is not learner engagement per se, but rather online learners' engagement with course activities. In this sense, their focus is principally on behavioural engagement as a way of identifying

types of learning activities learners spend more time working on. They find that the way weekly learning activities are designed by specific teachers has a crucial impact on how much time learners spend on the VLE per week and per session. This kind of approach shows the usefulness of learning analytics for identifying patterns in learner behaviour, which if applied to course and task design may be beneficial for learners. However, the authors concede that further studies are needed which also incorporate retention and student satisfaction data in order to unveil relationships between learning design changes and these two crucial issues for online learning. Emotional engagement is not part of this investigation, either.

What is lacking in the studies which investigate student engagement by observing learners' participation is a clear relationship with the theoretical context of learner engagement. As we have seen in the conceptual frameworks proposed by Fredricks, Blumenfeld and Paris (2004), Trowler (2010), Kahu (2013) and Schindler et al. (2017), student engagement is considered to be comprised of three dimensions and the studies which use observational methods alone have restricted their data to collections of instances of the behavioural and cognitive dimensions and fail to address learners' emotional engagement. In the next section, we present a group of studies which do include this crucial aspect of learner engagement.

3.2.5.2 Participant perspectives.

An important group of studies in the area of learner engagement with a focus on learners' perceptions and opinions on what they find engaging obtain their data from questionnaires. Not all the studies adopt a clear framework for student engagement and if they do, they may adopt engagement frameworks different from the three-dimension approach used in our study. In this sense, Nakazawa's (2009) small scale case study with 10 learners focuses on the range of pedagogical tools in a tertiary level online language courses and analyses student comments provided in course evaluation surveys. Her findings indicate that learners enjoy using CMC for language learning and feel they have more opportunities to interact and use the language. Students also report that they feel part of a learning community and they are able to maintain motivation. While the results provide helpful insight into students' perceptions about how engaging they find particular tools, Nakazawa fails to frame her work within a specific model of learner engagement. Despite this, her findings seem to be focused mainly on emotional engagement in that the student comments relate to the sense of community they felt on the course.

On the other hand, in a more detailed and larger-scale study of 186 learners in 38 different university courses, although not language courses, Dixson (2010) sets out to explore the types of activities and interaction channels which might foster engagement in online learning. Dixson frames

her work within effective online instruction, claiming firstly that online learning is as effective as traditional learning, secondly, that cooperation and collaboration are essential for online learning, and thirdly, that the presence of the instructor is crucial. She devises a questionnaire for students by adapting two previous engagement questionnaires: the Student Course Engagement Questionnaire (Smallwood, 2006) and The Student Course Engagement Questionnaire (Handelsman, Briggs, Sullivan, and Towler, 2005). Her model contains four factors that Dixson (2010, p. 4) believes are effective indicators of "a student's active pursuit of learning in a course":

- skills engagement (e.g. staying up to date with reading),
- emotional engagement (e.g. making the course interesting),
- interaction engagement (e.g. participating actively)
- performance engagement (e.g. getting good grades)

These four factors correspond quite well to the three-dimensional student engagement framework adopted in this PhD. thesis in that it includes emotional engagement, cognitive engagement (referred to by Dixson as performance) and behavioural engagement (which Dixson divides into skills and interaction). Dixson's (2010) results reveal that there is no particular learning activity type that students find more engaging than another, but she does find that students feel multiple communication channels are needed to increase engagement, and these may be either student to student or student to instructor communication. She also finds that, in addition to active learning to attain higher levels of student engagement on courses, it is crucial to incorporate meaningful and multiple ways of interacting with students and also to encourage them to interact with each other. However, while her study is based on a solid student engagement framework, the reliance on the opinions of students who volunteer to take part in the survey excludes a proportion of learners.

In another study, Young and Bruce (2011) also base their examination of the relationship between online classroom community and student engagement on Handelsman et al.'s (2005) Student Course Engagement Questionnaire. Young and Bruce argue that classroom community and engagement are interrelated because learners who feel connected and psychologically close to each other and the course are more likely to be actively involved, which in turn will lead to increased higher order thinking. Young and Bruce (2011, p. 220) consider engagement to be "the interest and motivation students have in their own learning of course content". There are evident links between motivation and engagement, but as we have argued earlier in this chapter, they are not the same constructs. In relation to the three-dimensional approach to understanding learner engagement, Young and Bruce's questionnaire includes items relating to learners' perceptions of their behavioural and

emotional engagement but there are no items specifically relating to cognitive engagement. Instead, several items ask learners about how much effort they feel they give in class, which for learners might prove challenging to answer in an objective way. Young and Bruce's (2011) study presents other problems: with a reported response rate for their questionnaire of 37%, there is no way to know whether the students who responded to the questionnaire were truly representative of the entire cohort. Furthermore, as in Dixson's (2010) study described previously, it may be the case that less engaged learners did not take part in the questionnaire at all. Unless engagement of all learners is analysed, we cannot be confident in how best to help learners who are less engaged. Despite these issues, Young and Bruce's findings do provide helpful indications that contact with the instructor and peer assistance are essential for creating a classroom community. A particularly interesting point in this study is that it includes students from a range of disciplines: education, health sciences, business, agriculture, arts and sciences and the findings indicated that students of education and health sciences reported the strongest feelings of community and engagement. The authors suggest that this may be due to the fact that student learning on those courses focuses on "thinking and creative dialogue facilitated by personal interactions, discussion groups, and debates with outcomes of growth and deep learning assessed by student and instructor reflections" (Young and Bruce, 2011, p. 226), with the implication being that a traditional lecture format will naturally produce lower levels of classroom community and engagement.

Adopting a different approach, Erbaggio, Gopalakrishnan, Hobbs and Liu (2012) investigate the impact of the use of authentic learning materials with learners of French, Italian and Chinese on learner engagement. While this study is not framed within an explicit student engagement model, we can discern that they focus partly on behavioural engagement (as they make reference to learners spending more time on tasks) and, to a certain extent, on cognitive engagement (as they examine the benefits of technology for learning are fostering the acquisition of higher-order skills). This research is also somewhat inconsistent in terms of the methodology used because they report the findings for each of the courses in different ways. In the French course, for example, engagement is measured by comparing scores indicating students' initial enthusiasm for the course with post-course student satisfaction scores. In this case, they find the latter to be higher as a result of the use of virtual textbooks. However, testimonials from students do seem to support their claim of increased student engagement. On the other hand, in the Italian course, the teacher's aim is to solve an issue of lack of authentic, interactive and content-based materials which were previously not being used. They find that learners are more engaged when learning activities are more authentic such as exploring real websites; however, the findings in this part of the study are based on student opinions only. Finally, in the case of the Chinese course, in which the intervention

consists of a shift away from a grammar-translation approach and incorporates homemade video vignettes, findings are based on a combination of student comments, student marks and student satisfaction surveys. Specifically, they find that while increases in scores are reportedly incremental, the incorporation of authentic online teaching materials is positive for both educators and learners. This may be related to the need of using authentic materials which, as we argued in chapter 2, is one of the tenets of task-based language teaching. In this respect, more recently, Dao, Nguyen and Iwashita (2019) investigate teachers' perceptions of their learners' engagement in task-based interactions. In their study, the teachers identify the following three indicators of learner engagement:

1) deep thinking and attention to other learners' ideas;
2) a high level of content production; and
3) a high degree of interactivity.

In contrast to what research in learner engagement has shown, though, for the teachers in Iwashita's study, emotional engagement is less noticeable for them unless students express their emotions explicitly, as in the case of showing enthusiasm and positive attitudes. Yet these indicators of emotional engagement are not rated as highly as the indicators listed above.

While research into engagement which asks learners and teachers to report on their own perceptions of their educational experience are undoubtedly useful, there are limitations to this approach. As Young and Bruce (2011) report, course evaluation surveys tend to have low participation rates and may not be representative of a wide enough range of degrees of learner engagement. One solution which has been adopted by several researchers is a combined approach based both on learner observation tools and questionnaires asking learners about their experience.

3.2.5.3 Combined approach.

Among the research studies that use data from observing learners and combine this with student surveys we find Zhao and Kuh's (2004) large-scale study with first and senior-year college students, which has the dual aim to (a) unveil the relationship between participation in a learning community and learner engagement and (b) consider the relationship of learner engagement with learning outcomes and satisfaction with the institution. The authors suggest that critical thinking is fostered by the very interdisciplinary and interactive nature of learning communities. In their study, the construct of learning communities involves groups of students who are taking at least two classes together, classroom-based learning communities that feature group activities, residential learning communities, where learners live close to each (usually on-campus) and student-type communities for specific learners, such as those who may need remedial support. Zhao and Kuh (2004, p. 119)

define student success as “student engagement in educationally purposeful activities, self-reported gains in a variety of desired outcomes of college, and overall satisfaction with their college experience”. Their findings indicate that involvement in a learning community is related to higher academic effort, academic integration and active and collaborative learning. Learning communities also correlated with higher rates of interaction with teachers. While these findings are helpful, in that the authors relate communities of learners to engagement, the data they analyse come from self-reported student surveys, which as we have argued may be problematic, particularly if these are voluntary. Another issue with this research which the authors also point out is that those learners who take an active part in learning communities may be the more capable learners and therefore more likely to obtain better academic results, even without taking part in the learning community. Because of this, Zhao and Kuh concede that it is not possible to show a causal relationship between participation in the communities and higher academic achievement. While the research is related to the area of learner engagement, in that it focuses on participation in learning communities, learner behaviours and learning outcomes, this study does not provide a clear framework for learner engagement. Another study which focuses on learners’ interaction and specifically learner participation in situated learning activities carried out through CMC is that conducted by Yang (2011). The author collects and analyses students’ participation data and student questionnaires and demonstrates the existence of the three dimensions of learners’ engagement in both synchronous and asynchronous interactions between learners and instructors, although not between learners. Yang concludes that these interactions lead to significant improvements in language learning performance precisely because online situated language learning facilitates the observation of the three dimensions of student engagement. However, as she acknowledges, not including student to student interaction is a significant limitation of this study.

In a non-language learning context, Dixson (2015) addresses learner engagement by validating student survey responses which seek to connect levels of student engagement with student learning behaviours, such as using time and energy to learn materials and develop skills, demonstrating learning, interacting in a meaningful way and becoming emotionally involved with one’s learning. As Dixson (2015, p. 4) explains, “student engagement is about students putting time, energy, thought, effort, and, to some extent, feelings into their learning.” The author also points out two limitations of her findings: (a) observable student behaviour cannot account for time spent thinking and reading or any other learning activity not observable in the learning management environment and (b) results from the questionnaire only provides validation of self-reported behaviour. Furthermore, she only measures quantity, not the degree to which particular learning behaviours affect student learning.

Within the area of language learning in online contexts, Hampel and Pleines (2013) adopt an action research approach to look into how changes to online language courses and tasks affect interaction and engagement. Their research consists in analysing user logs, learner surveys and interviews, while making changes to the course and measuring again based on the findings during each iteration. Student engagement is measured from user logs and student participation in online activities. As these are not assessed or compulsory, this study can be particularly interesting for identifying student engagement. Through questionnaires, the authors find two main motivators for doing online activities: practising language and minimising feelings of isolation. They also find that the use of polls, a tool used to get students' opinions, positively affect engagement. In fact, their operational definition of engagement could be described as the learners' action of doing something towards the achievement of a learning objective. However, it might be argued that this is a rather simplistic view and we could also consider levels of engagement in other areas, such as engagement with tasks and with peers.

The effect of social networks, and specifically the use of Facebook, on student engagement is the focus of the study by Akbari, Naderi, Simons and Pilot (2016) on learners' perceptions. The authors combine questionnaires to learners and observation of learning activity with the achievement of learning outcomes as a way of triangulating their results. They compare results of two groups of learners: one that uses Facebook and another that does not. They find that more learners in the Facebook group improve their scores in the Test of English as a Foreign Language (TOEFL) in comparison to learners who do not use Facebook. The analysis of the students' questionnaires also reveals higher engagement in the learning process in the case of the students in the Facebook group.

In another study, Lambert, Philip and Nakamura (2017) compare learner engagement in learner-generated and teacher-generated speaking tasks of Japanese learners of English. Their research is based on the hypothesis that tasks which have more meaning for learners will have a positive effect on learner engagement. In their study, behavioural engagement is measured in terms of effort in completing tasks, and specifically on the amount of semantic content produced and on the amount of time spent being on task; cognitive engagement is measured in relation to learners' attention or mental effort towards the task, specifically by counting the number of clauses produced to formulate or respond to clarifications of meaning; and social engagement is measured in terms of the learners' willingness to take part in the task. Their model also includes learners' emotional responsiveness, or how learners' affective responses are reflected during tasks. The authors refer to previous work by Pekrun and Linnenbrink-Garcia (2012) when they propose that "emotions activate or deactivate engagement" (Lambert, Philip and Nakamura, 2017, p. 669). This study also explores

the effect of students' proficiency on engagement by surveying learners' opinions on the learner-generated versus teacher-generated tasks. Their findings have implications for task and course designers because the authors show that encouraging learners to generate content themselves has a positive effect on engagement. Furthermore, this impact on engagement was not countered by learners' language proficiency either and the authors were able to validate their findings through student questionnaires.

To conclude, we should state that to our view, the group of studies in this section which bring together observational methods and questionnaire data to understand learners' opinions offer a more rigorous approach for measuring learner engagement. However, none of them provides a replicable model for observing the emotional dimension of learner engagement. They are also still limited in their scope because, as discussed previously, student questionnaires cannot guarantee maximum participation and inevitably only include a proportion of learners. The collection of studies we reviewed confirms two points that Bond and Bedenlier (2019) make with regards student engagement; firstly, only a small proportion of studies which focus on educational technology uses a theoretical framework (Hew, Lan, Tang, Jia and Lo, 2019), and secondly, a great deal of research on student engagement fails to provide a clear definition and operationalisation of engagement (Henrie, Halverson and Graham, 2015). We can also appreciate that while emotional engagement has been investigated previously, observing learners' emotional engagement has been avoided. Given that emotional engagement is a crucial element for meaningful learning (Karppinen, 2005; Masats, Juanhuix and Albines, 2017), there is a clear need to identify a systematic approach for analysing learners' discussion forum posts which can tap into how emotionally involved in particular learning tasks learners are. In this sense, we turn now to a well-established approach within the field of computer-mediated communication in distance learning contexts, that of social presence.

3.3 Social Presence

Social presence is defined by Garrison, Anderson, and Archer (2001, p. 4) as the degree to which participants in distance learning contexts "project their personal characteristics into the community, thereby presenting themselves to the other participants as "real people"." It has also been defined by Rourke, Anderson, Garrison and Archer (1999, p. 50) as "the ability of learners to project themselves socially and affectively into a community of inquiry". Social presence, thus, is a key concept in online education and, potentially a powerful way to evaluate learners' psychological connection to, or emotional engagement with a community of learners and the educational experience. In the following section, we begin by presenting the context within which social presence is most often presented: the Community of Inquiry model.

3.3.1 The Community of Inquiry.

As we discussed in chapter 2, although today mainstream research within the interactional paradigm still follows a cognitive direction, the number of sociocultural-oriented research studies is constantly growing. Yet, this 'strong socio-interactionist perspective' (Mondada and Pekarek-Doheler 2004) has a multidisciplinary nature and is grounded on various theoretical trends. That is, there is no such thing as a sociocultural theory or a unique set of methodological procedures to conduct research (Masats, 2008). This explains why Zuengler and Miller (2006), just to cite an example, use the plural term "sociocultural perspectives" to refer to the research trends which could be considered to belong to this field. What all these perspectives have in common is the recognition that learning is a socially situated activity which occurs through interaction with others (Vygotsky, 1962). The notion of situated learning was first proposed by Lave and Wenger (1991), who defend that "learning is rooted in the learner's participation in social practice and continuous adaptation to the unfolding circumstances and activities that constitute talk-in-interaction" (Mondada and Pekarek Doehler, 2004, p. 501). The concept is closely related to the idea that knowledge is co-constructed through participation in communities of practice (Wenger, 1998) and although this idea was soon adopted by the educational community it was originally coined (and still used by the author) to explain learning in the workplace, not in formal educational settings.

Particularly influential in the field of computer mediated communication (CMC) in distance learning research, and therefore an essential part of the framework for the present study, are a group of studies introducing a closely related conceptual construct known as the Community of Inquiry model (Anderson, Rourke, Garrison and Archer, 2001; Garrison, Anderson and Archer, 2001; Rourke et al., 1999). We could argue that there are three main differences between the two concepts: who composes the communities, how learning is envisaged and which tenets sustain the model. First, communities of practice are formed by "groups of people informally bound together by shared expertise and passion for a joint enterprise […] (and) share their experiences and knowledge in free-flowing, creative ways that foster new approaches to problems" (Wenger and Snyder, 2000), whereas communities of inquiry are "groups of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding" (Garrison, 2007, p. 2). Second, the concept of community of practice is coined by Lave and Wenger (1991) to describe apprenticeship as a learning model and it can be applied to all sorts of organizations. The concept of community of inquiry stems from the work of Peirce (1877) regarding how knowledge is formed through a process of scientific inquiry. Third, the model of community of practice is sustained in four tenets: practice (learning as doing), which generates new knowledge (learning as experience) in a shared domain (learning as becoming) with a group of people with expertise (learning as belonging);

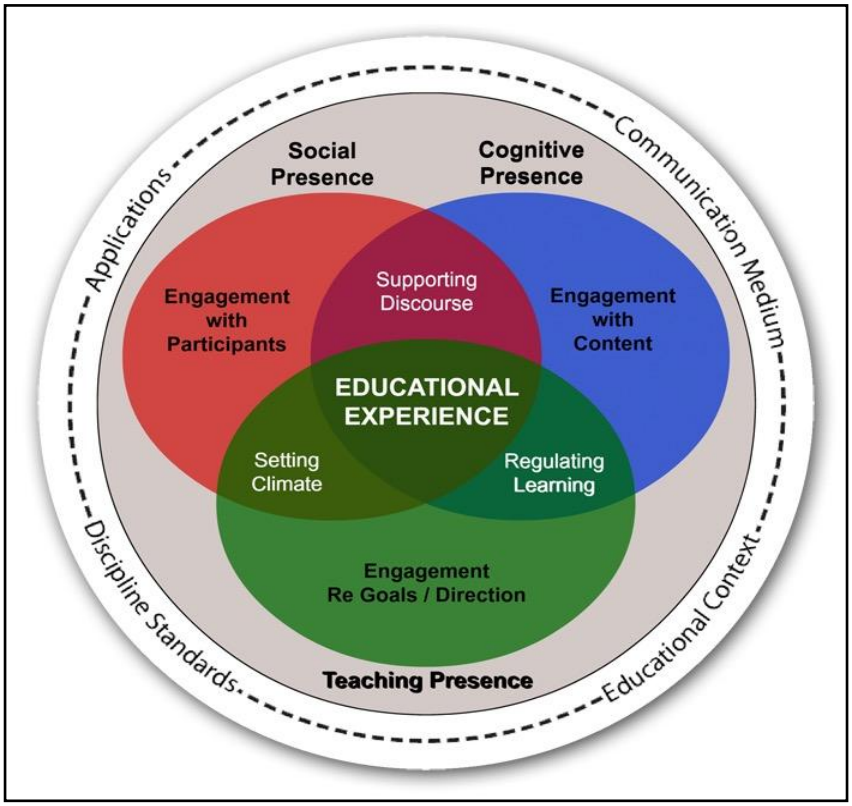
where the model of a community of inquiry requires cognitive presence, teaching presence and social presence.

The concept of the community of inquiry has evolved since it was first proposed. Peirce (1877) originally restricts it to refer to the scientific community and the idea that doubt generates knowledge when it is followed by a process of inquiry; Dewey (1938) broadens the scope of the concept to include the importance of practical reasoning to solve social problems. He also emphasises the role of the educational community, which leads Lipman (1991) to argue that a community of inquiry could be composed of teachers and students if learning is gained through processes of inquiry which include, among others, activities such as problem solving, reasoning, observing, formulating hypothesis, experimenting, arguing, discussing, etc. Its application to online learning contexts is primarily done through the work of Rourke et al. (1999), who envisage the Community of Inquiry (CoI) as an instructional design model for using CMC to support an educational experience and add it is comprised, as we said, of cognitive presence, teaching presence and social presence. Cognitive presence refers to how participants in a CoI construct meaning, teaching presence refers to the teachers' role in the CoI and social presence refers to how learners project themselves in the CoI.

There has been relatively little research into the application of the Community of Inquiry framework in online contexts specifically for language learning, although there are exceptions. Studies that have been done have often focused on teacher preparation for working online (Arnold and Ducate, 2006; Chen, 2012; Lomicka and Lord, 2007; Satar and Akcan, 2018; Tolu, 2010). Other studies have focused on the use of blogs (Asoodar, Atai, Vaezi and Marandi, 2014), increasing teacher presence by introducing individualised audio feedback (Olesova, Richardson, Weasenforth and Meloni, 2011) and curricular design (Randrianasolo, 2013). Most of these studies use questionnaires as a way to unveil student beliefs about how the different types of presence are manifested and their importance for learning as opposed to adopting an approach to be able to observe learner activity.

One reason that researchers in online language learning may not have framed their work within the CoI more is that while teaching presence and social presence are as relevant and transferrable to online language learning contexts as they are for learning other content-based subjects online, analysing and evaluating cognitive presence poses more of a challenge. The relationship between these three aspects of a CoI is shown in Figure 6 and as can be observed, each type of presence is interrelated to create an educational experience.

Figure 6. Community of Inquiry model



We will now proceed to describe these three components briefly:

Cognitive presence

Cognitive presence relates with students' engagement with course content and is supported with appropriate teaching and social presence. Cognitive presence is also envisaged as the degree to which learners can construct meaning through ongoing communication and it is considered essential for determining whether higher-order or critical thinking is evident in online discussions. Garrison, Anderson and Archer (2001) explore the notion of cognitive presence in detail and devise an instrument for evaluating the critical nature and quality of discourse in a computer-mediated conference. This instrument consists of various phases of what the authors refer to as the "Practical inquiry model": a triggering event, which may be a task or other kind of learning challenge communicated by the instructor; exploration, where participants explore ideas, gradually exploring these in more detail; integration, a phase during which meaning is constructed from the ideas from the exploratory phase; and finally resolution, where the learning challenge or task is resolved. While these phases may be applied to discussion forums used for non-language subjects, where the learners are fully proficient language users with no linguistic barriers, it is more challenging to apply in language course contexts in which learners are not fully proficient in expressing complex ideas. The degree to which learners can construct meaning in a language learning context is inevitably

determined by the communicative competence of the learner. For this reason, it may not always be possible to analyse cognitive presence, as described in the CoI, in online language learning contexts and a different approach will be needed to monitor and foster learners' language development. In terms of the cognitive presence which is observable from forum posts, it is likely that a redefinition of the CoI coding system for cognitive presence is needed for language learning contexts. This coding system should be capable of indicating whether a post displays evidence that the participant has understood the task instructions (for first posts), and for replies to previous responses, by paraphrasing, giving further examples and developing the ideas previously expressed further.

Teacher presence

In chapter 2, we have seen how the role of the teacher has changed considerably in recent years and today is most accurately described as a facilitator of learning in online contexts. In this sense, a study by Mazzonlini and Maddison (2003) seeks to discover the effect of different facilitation strategies employed by instructors on an online astronomy programme with around 200 participants in an attempt to confirm whether instructors should take a more prominent role, by posting often and dominating all of the learners' discussions, or keep a lower profile in asynchronous discussion forums. They measure the number of student posts, the length of discussion threads, the number of new threads started by the instructor and correlate these variables with students' perceptions about the usefulness of forum discussions. They conclude that higher posting rates by the teacher do not necessarily lead to higher levels of student participation; a finding other studies in language learning contexts have also confirmed (see, for example, Robbins, Malicka, Canals and Appel, 2015). However, Mazzolini and Maddison (2003) also find that teachers who do post more are rated as being more enthusiastic and expert in post-course surveys and so the amount and frequency of teacher presence in asynchronous discussion forums continues to be a relevant focus of study. For example, Rovai (2007) argues that for instructors to be able to develop social presence in forums, they should access them daily and post at least once a day to maintain the focus of discussions, to encourage students to participate by asking questions that may trigger deep and reflective discussions, and to reply immediately to individual emails. However, Rovai (2007) also stresses that instructors should avoid becoming the centre of all discussions and give way to student-student interactions. In this way, Rovai recommends instructors should avoid stepping into discussions too quickly. Instead, they should ask more questions, post wrap ups at the end of discussions, deal with potentially disruptive students and converse with learners who dominate discussions on a one-to-one basis.

Finally, An, Shin and Lim (2009) investigate the effect of different types of teacher facilitation procedures on students' interactions. In three separate classrooms, teachers are instructed to use different ways of facilitating learners: in one, the teacher responds to each student's initial post and then learners are required to respond to at least two classmates; in a second, the teacher responds to each students' initial post but learners are not required to respond to other learners' posts; in the third group, the teacher does not respond to initial learner posts but learners themselves are instructed to respond to two classmates' posts. They find that when learners are required to respond to each other, as in the first and third groups, they write more freely compared with when the teacher posts minimally.

According to the CoI framework, a requirement for learners to achieve higher levels of cognitive processing is teaching presence (Shea and Bidjerano, 2009), which Anderson et al. (2001, p. 5) define as "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes". The authors devise a coding scheme to evaluate levels of teaching presence in CMC based on these three principal teaching roles. By 'design', the authors refer to the planning, design and preparation of a course, and specify the following indicators:

a) setting tasks;

b) organising learners;

c) setting deadlines;

d) using the medium appropriately; and

e) establishing rules of netiquette.

In terms of facilitation, they refer to:

a) pointing out areas of agreement and disagreement;

b) building consensus;

c) strengthening learners' contributions;

d) building a constructive atmosphere;

e) fostering discussion; and

f) evaluating the process.

They also include explicit teaching through direct instruction and specifically refer to:

a) asking questions;

b) refocusing the discussion;

c) summarising the discussion;

d) providing explanations;

e) identifying areas of misunderstanding;

f) adding additional resources; and

g) dealing with technical issues.

For Anderson et al. (2001) though, social presence is considered a pre-requisite for learning to take place at all in CMC and it is to this issue we now turn in the next section.

Social presence

While cognitive and teaching presence are considered to be essential for an optimal educational experience, social presence is the pre-requisite for learners to achieve cognitive objectives as it fosters and supports critical thinking. Rourke et al. (1999), departing from the work of Tinto (1987), claim that social presence "supports affective objectives by making the group interactions appealing, engaging, and thus intrinsically rewarding, leading to an increase in academic, social, and institutional integration and resulting in increased persistence and course completion" (Rourke et al., 1999, p. 3). The authors devise a coding system for content analysis of discussion forum transcripts, breaking social presence down into three categories:

a) affective indicators

b) cohesive indicators

c) interactive indicators

Details of the indicators and a definition of each type of social presence are given in Table 2. As displayed in Table 2, affective indicators of social presence are expressed by the use of emoticons, humour and self-disclosure, and according to the authors this type of social presence helps writers in online contexts to enjoy an enhanced socioemotional experience. Interactive indicators are essential for socially meaningful interaction and help in the development of relationships among participants. On the other hand, cohesive indicators are related to communicative strategies used to develop and maintain a sense of group commitment. As the writers propose, the inclusion of these three types of social presence are strong indicators for an online community of inquiry, and when there are high levels, participants are likely to feel affiliated with each other and also, crucially, interacting in the online environment will be more educationally valuable.

Table 2. Social Presence coding system devised by Rourke et al. (1999, p. 60)

Category	Indicators	Definition
Affective	Expression of emotions	Conventional expressions of emotion, or unconventional expressions of emotion, includes repetitious punctuation, conspicuous capitalization, emoticons.
	Use of humour	Teasing, cajoling, irony, understatements, sarcasm.
	Self-disclosure	Presents details of life outside of class, or expresses vulnerability.
Interactive	Continuing a thread	Using reply feature of software, rather than starting a new thread.
	Quoting from others' messages	Using software features to quote others entire message or cutting and pasting selections of others' messages.
	Referring explicitly to others' messages	Direct references to contents of others' posts.
	Asking questions	Students ask questions of other students or the moderators.
	Complimenting, expressing appreciation	Complimenting others or contents of others' messages.
	Expressing agreement	Expressing agreement with others or content of others' messages.
Cohesive	Vocatives	Addressing or referring to participants by name.
	Addresses or refers to the group using inclusive pronouns	Addresses the group as we, us, our, group.
	Phatics, salutations	Communication that serves a purely social function; greetings, closures.

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The question of when each of the three types of social presence is used along a course has been investigated by different researchers in the context of asynchronous discussion forums with varying results. For example, Swan (2001) finds that while affective social presence tends to stay constant across the course examined, cohesive social presence declines, and on the other hand, interactive indicators increase. Swan explains that each type of indicator has a different function in terms of creating and maintaining the sense of community and they are therefore dependent on context and time. On the other hand, Vaughan and Garrison (2006) find that affective and interactive indicators decrease while cohesive indicators increase significantly over time. These authors suggest that affective and open communication must be established among the group members before group cohesion can occur. However, Swan and Shih (2005) report though that for students who show low social presence overall, affective social presence can feel like a waste of their time. In their study, cohesive indicators decrease over time, but interactive indicators generally increase.

3.3.2 Analysing social presence.

According to Rourke et al. (1999), the concept of social presence derives from Mehrabian's (1969) notion of "immediacy", which referred to behavioural communication that increases closeness to others through nonverbal cues. Nearly a decade later, when Short, Williams and Christie (1976) investigate the potential negative effects on interpersonal communication from the increasing use of non-presential communication technologies, they define social presence as "the salience of the other in a mediated communication and the consequent salience of their interpersonal interactions" (1976, p. 65). Two decades later, Rourke et al. (1999) report on subsequent work on immediacy within the field of education, with the caveat that research up to that point had concentrated on face-to-face contexts. However, as the authors point out, the concept of immediacy is a critical one in the ambit of distance education, as the nature of communication is predominantly textual and asynchronous, consequently, the

"distance" needs to be overcome through linguistic means. For online courses to be successful, learners need to "feel connected with course, its instructor and fellow classmates" (Herbert, 2006, p. 3) or they may suffer from higher levels of dissatisfaction and, as a consequence, courses may be subject to lower rates of persistence. Kehrwald (2008) makes a similar point when he explains that technology mediates between participants and their communicative exchanges and, therefore, the quality of technology can affect their experience. Kehrwald (2008, pp. 90–91) argues that the distance introduced into mediated interaction can only be mitigated through presence to ensure that "the illusion of reality (or direct experience) in participants' perceptions of mediated situations" is created.

3.3.2.1 Social presence as an indicator of interactivity.

Social presence relates to convergence (where posts are closely linked to ideas expressed in at least two other posts) and may indicate the presence of an interactive learning environment that promotes participation (de Bruyn, 2004). At the time when de Bruyn's study was carried out, internet access was not as widely available as it is nowadays and her results relating to student involvement are arguably not relevant for today's level of connectedness. However, even in the early days of the incorporation of discussion forum learning activities, de Bruyn (2004), following Hewitt (2001), suggests that discussion forum moderators should prepare summaries of discussions, and, critically, these moderators should be students. On the other hand, Garrison and Cleveland-Innes (2005) consider that while a high level of teaching presence may contribute to deep learning, teaching that encourages interaction alone does not necessarily achieve this goal. They recommend teachers provide students with clear information regarding participation requirements in terms of length, content and timing, and to focus their interventions on actions such as providing engaging questions, focusing discussions, challenging ideas, modelling appropriate contributions and ensuring the discourse is progressive. In line with Rovai (2001, 2007), Garrison and Cleveland-Innes (2005) recommend maintaining teaching presence that encourages participation but that is not teacher centred saying, that it "is not educationally desirable or reasonable from a time-management perspective to have the teacher respond to each comment" (Garrison and Cleveland-Innes, 2005, p. 145). Zhao, Sullivan and Mellenius (2013) also take collaborative learning as the focus of their study of students taking part in an online peer review activity and find that collaboration requires participation, but participation does not automatically lead to collaboration; neither does it end with interaction. They conclude that social presence is an essential component of a successful online dynamic, and feel it is the responsibility of the teacher to move discussions beyond participation and interaction, and on to a collaborative dynamic. More recently, Satar and Akcan (2018) explore online participation, interaction and social presence among pre-service EFL teachers in a professional development course. They find that levels of social presence density (a measure which takes into account the proportion of social presence in discussion forum posts) remain stable over a period of two semesters, but specific types of social presence do change: while affective social presence levels decrease, interactive social presence tends to increase. The authors conclude that once participants have established a strong sense of community in the first part of the course, affective social presence becomes less necessary.

3.3.2.2 Social presence and student retention.

Social presence has also been linked to student retention (by which we mean course completion). For example, Rovai (2007) points out that course design should provide motivation for students to

engage in productive discussions that nurture a strong sense of community as well as content and task-oriented discussions. In line with Garrison and Cleveland-Innes's (2005) recommendations, Rovai (2007) argues that instructors must generate social presence and face the challenge of showing that student posts have been read while at the same time, avoiding becoming the centre of all discussions by promoting student-to-student interactions. The author identifies several practical teacher strategies which can promote social presence, but they are not all applicable in language courses. For example, citing MacKnight (2000), he suggests that student dialogue should be encouraged through "thought-provoking questions that stimulate in-depth, reflective discussions" (Rovai, 2007, p. 82), but these strategies may be beyond the reach of lower level foreign language learners.

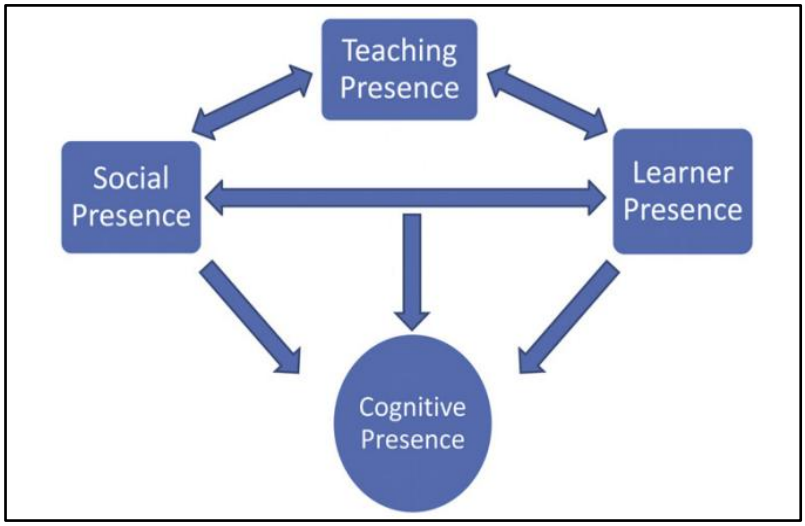
In this line, the study conducted by An, Shin and Lim (2009) is particularly interesting as it compares three different teacher facilitation strategies and their effect on participation and student satisfaction, which has an impact on course completion. They find that more limited teacher intervention encourage learners to participate more freely with high levels of social presence, but the participants are teachers, not learners as the study is carried out in the context of initial professional development and this could have implications for how they interact. In another study, Kim, Kwon and Cho (2011) correlate social presence against other demographic variables and student satisfaction. While they find that gender, online learning experience and work status do not have a significant effect on social presence or learning satisfaction, how media are selected and used, and the quality of teaching do significantly and positively both. Similarly, Kim, Song and Luo (2016) seek to distinguish between social presence and interactivity and reveal the predictive validity of social presence for online learning experiences. The findings show social presence and interactivity to be distinct, although related notions. In this sense, Kim et al. (2016) conclude that increased interactivity may increase levels of social presence, or interactivity might be an outcome of perceiving higher levels of social presence, but that the two constructs require further study to explore the relationship in more detail. The participants in neither of these studies are language learners, so the language they are using is their first language. On the other hand, Chen and Adescope (2016) focus their study on EFL online learners and argue that one of the key factors that increases student satisfaction is a feeling of relatedness with others. They link feelings of relatedness with the notion of a learning community, whereby a group of learners shares a sense of belonging, as well as having shared expectations and educational goals. In Chen and Adescope's view, learners need support and encouragement from both their classmates and their teacher, in order to feel like insiders in their learning experience, and therefore perceive themselves as successful learners.

As we have already seen, social presence is considered to be a prerequisite for cognitive learning. In this line, Garrison, Cleveland-Innes and Fung (2010) explore causal relationships between teaching, cognitive and social presence. They test these relationships and find that teaching and social presence significantly affect perceptions of learners on cognitive presence. They also confirm that perceptions of teaching presence seem to affect social presence. As with the majority of studies in the area of social presence, the context is not specifically related to language learning and while this may not be problematic for very high-level foreign language learners who have the linguistic resources to express higher-level thinking in online discussions, for lower-level learners, there remains the need to seek other ways of obtaining evidence of learning and language development. This does not negate the relevance of social presence, though.

3.3.2.3 Learning presence.

Within the area of language learning, Shea and Bidjerano (2010) build on the CoI model to understand more about the role of the learner in terms of what they refer to as 'learning presence'. They do this by investigating how learners self- and co-regulate their learning, and specifically the extent to which the learners are metacognitively, motivationally, and behaviourally active. Adding to earlier work by Larreamendy-Joerns and Leinhardt (2006), Shea and Bidjerano (2010, p. 1722) point out that the CoI model is devoted specifically to the goal of supporting epistemic engagement, which they define as "learner commitment to active group knowledge building", and postulate that text-based interaction provides the means for collaborative construction of knowledge. They argue that as the nature of online learning is electronic, social and 'self-directed', examining learner self- and co-regulation is important and, in this sense, they relate to desired outcomes, such as higher levels of cognitive presence. Figure 7 shows their suggestion for a revised CoI model.

Figure 7. Revised community of inquiry model including "learner presence" (Shea and Bidjerano, 2010, p. 1727)



It is pertinent to note the slight change of term from 'learn*ing*' to 'learn*er*' presence in this model, as it could be argued that the two terms have distinct meanings. Learning presence seems to imply that learning is a process which might be observable through increased levels of cognitive presence, for example, or through learners showing improvement in marks over time. On the other hand, learner presence seems to refer more to learners taking an active part in the tasks they are asked to do, which relates closely to behavioural engagement. In a subsequent paper, Shea, Hayes, Uzuner Smith, Vickers, Bidjerano, Gozza-Cohen, Jian, Pickett, Wilde and Tseng (2013) define the concept of learning presence in more detail as "the iterative processes of forethought and planning, monitoring and adapting strategies for learning, and reflecting on results that successful students use to regulate their learning in online, interactive environments" (Shea et al., 2013, p. 1). In this line, they develop a coding system based on previous research in the area of self-regulation, and use this to analyse journals and discussion forum posts to examine how learning presence is affected when learners take on part of the instructional role. The authors complement their analysis by exploring the networked relationships among participants' interactions through the analysis of centrality. In social network analysis, centrality "is a measure of prominence based on the number of mutual and unreciprocated ties or relations students have with each other" (Shea et al., 2013, p. 433) and it provides key data because it correlates with positive learning outcomes. Centrality is measured in terms of 'in-degree centrality' (whereby posts are received from other participants) and 'out-degree centrality' (whereby posts are sent to other participants). Shea et al. (2013) find that in their study, students who demonstrate higher levels of learning presence are those who have increased in-degree centrality (meaning they receive a high number of posts from other participants) as other students sense that these students, who take up the role of facilitators, are valuable interactional partners and therefore choose to write to them. In other words, learners who show evidence of higher rates of learning presence tend to adopt stronger positions in their learning communities. From the perspective of learner engagement, this view seems to be related to behavioural engagement. The crucial point here is that Shea et al. (2013, p. 1728) place the emphasis of future research in understanding the "metacognitive, motivational, and behavioural traits of active online students". In doing so, they suggest that there will be significant impacts for future online community design. Their findings complement the work of Hew and Cheung (2008), detailed previously in section 3.1.3 which identifies peer facilitation strategies that foster higher levels of participation in online forums. Those strategies (sharing opinions or experiences, asking questions to others, showing appreciation, personally inviting others to contribute, and summarising the contents of others' posts) also relate to Anderson et al.'s (2001) indicators for teaching presence and it seems to be the case that the line between learners' and teachers' roles in CMC is increasingly blurred.

As we can surmise from the studies discussed above, social presence can promote collaborative learning, and it is also closely related to learner engagement. As Dixson (2010) shows in her study into what learners find engaging active learning tasks, and in particular those which take place in discussion forums that encourage, and even require, learners to engage with course content as well as with each other can help learners develop social presence.

Chapter 4 Methodological framework

This chapter presents the objectives of the research and defines the research questions addressed. This is followed by full details of the research design employed together with an explanation and justification for this. Later in the chapter, the study and the corpus are contextualised. In the final sections of this chapter details are given with regards to how the data was collected, treated and analysed.

4.1 Objectives and Research Questions

We have seen in chapter 2 that in order for learning to be meaningful, it needs to be active, constructive and individual, collaborative and conversational, contextual, guided, and emotionally involving and motivating (Karppinen, 2005). In chapter 3, we have seen that learner engagement in pedagogical tasks is comprised of three dimensions: behavioural, cognitive and emotional engagement. We have also discovered that there are few studies which address learner engagement in the context of online language learning; those that do tend to be limited to focusing on behavioural engagement. Research into cognitive engagement has posed a challenge for language learning contexts. When learners are not fully proficient in the language being studied, evaluating gains in their language development would seem to be an appropriate indicator of their cognitive engagement. In this study, we explore learners' cognitive engagement by comparing how learners' marks for two similar writing tasks progress and specifically, whether these marks increase, remain the same or go down. One of these tasks is carried out early in the course and the other takes place at the end of the course. Establishing how learners' marks change between these two tasks is a way of tapping into the degree of cognitive involvement learners have. Research into behavioural engagement has mainly centred on evaluating learners' participation in tasks and interaction with tasks and with other participants and in the present study, we use a range of different measures of learners' participation and interaction to explore this dimension of engagement. On the other hand, studies in learner engagement predominantly explore the emotional dimension of engagement by analysing learners' perceptions, through questionnaires, and there is little research conducted to establish methods for observing this dimension of learner engagement.

At the same time, social presence has been a key area for research in online learning contexts, primarily because social presence is considered to be a pre-requisite for higher level learning in computer mediated communication contexts (Rourke et al., 1999). Given that social presence refers to how participants in online contexts express themselves as real people, or the way they communicate to bridge the virtual divide, it offers a great deal of potential for observing participants' emotional engagement. In this respect, we will use social presence to examine

discussion forum transcripts in terms of how participants express themselves affectively, cohesively and interactively (see Table 10).

As we have seen in chapter 2, Breen (1989) posits that within a task-based language teaching approach, tasks are comprised of three phases: task-as-workplan, which refers to the teachers' pedagogical plan; task-in-process, which considers what takes place in the classroom; and task-as-outcome, which is the physical manifestation of the task. In the context of the present study, we consider these different phases of three writing tasks which take place in virtual classroom asynchronous discussion forums. Tasks are designed and given to learners in writing (task-as-workplan), learners then take part in an asynchronous discussion and interact together with each other (task-in-process), and they are evaluated on the discussion posts they send (task-as-outcome). Task design is a crucial aspect of online distance courses, because, as Appel (2012) claims:

> El sol fet de fer accessible una tecnologia i de fer possible la comunicació entre […] estudiants de les llengües no garanteix l'èxit de la comunicació assistida per ordinador per a l'aprenentatge de llengües; l'organització de l'intercanvi i el disseny de les activitats són clau per a l'obtenció de bons resultats en aquest tipus de projectes. (Appel, 2012, p. 63)

In the previous quote from Appel, she points out that making technology available to learners cannot guarantee successful communication between learners, thereby highlighting the necessity to scaffold language learning tasks by seeking ways to organise learners' interaction, through the introduction of prompts or careful staging of tasks. As Dooly (2018, p. 215) argues, "Learning should be planned so that technological resources can be used creatively by the students to resolve communication difficulties that resemble potential situations in the real world". However, despite the best efforts of task designers, learners interpret task instructions individually and what learners actually do with a particular task may well stray from the original pedagogical aims. Seedhouse and Almutairi (2009, p. 312), departing from the work by Coughlan and Duff (1994), claim that "the same task-as-workplan does not yield comparable results in terms of task-in-process when performed by several individuals, or even when performed by the same individual on two different occasions". For second language researchers who adhere to the 'strong' interactionist perspective (Mondada and Pekarek Doehler, 2004) we referred to in chapter 2, the implication here is that observing what language learners actually do with tasks in terms of how they interact and then relating this with their progress in terms of language development is of fundamental importance for deepening our understanding of how language learning happens through particular tasks. As Seedhouse and Almutairi (2009, p. 312) point out "TBLT interaction research gathers data from the task-in-process, because that is the actual communicative event which generates interactional data".

The course analysed in the present research adopts a task-based language teaching approach where classroom participants work together on different written and spoken tasks. The course, and indeed this research, is based on the premise that learners' language development occurs through interaction with others, and it is this interaction which provides the context for learners to develop their communicative competence. Within this view, tasks do not have predetermined outcomes; instead, tasks are viewed as processes, whereby learners interact with the course materials, the task instructions and each other and it is through these interactions that language development occurs. The overall aims of this study are to unveil the relationship between learner engagement and language learning development in learners' writing contributions in the context of asynchronous online discussion forum tasks and to discover whether learner engagement develops during the social construction of a task-in-process or whether it is triggered by the characteristics of a task-as-workplan.

Our research is a collection of three small-scale case studies on learner engagement stemming from the same bulk of data. As Cohen, Manion and Morrison state, in educational research:

> (…) the case study researcher typically observes the characteristics of an individual unit -a child, a clique, a class, a school, or a community. The purpose of such observation is to probe deeply and to analyse intensively the multifarious phenomena that constitute the life cycle of the unit with a view to establishing generalizations about the wider population to which that unit belongs." (Cohen, Manion and Morrison, 2007, p. 258)

As we will comment on below, each case study relates to one of our main research objectives. In case study 1, we analyse all posts from a warm-up task carried out in two classrooms. In case study 2, we analyse all posts from one of the classrooms for three forum tasks: the optional warm-up task we examine in case study 1 plus the two compulsory essay writing tasks from the classroom forum. In case study 3, we analyse in greater depth posts from three learners from classroom 1. Posts come from both the warm-up task and the two essay tasks and we examine issues such as complexity, accuracy and fluency. As we will explain in greater detail in section 4.3, to choose the three learners for case study 3, we looked at the median for the number of posts, identified learners who were neither particularly frequent or infrequent contributors and then selected one person whose marks went up over the course, one whose marks stayed the same and another whose marks went down over the course.

One could argue that of the drawbacks of our study is the small amount of data considered (two classrooms in case study one, one of the former classrooms in case study two and three learners

from the latter classroom in case study 3, but this methodology turns out to very useful to analyse particular phenomena, as is the case here, because it does not require control conditions and it "provides an opportunity to observe the behaviour of interest as it naturally occurs" (Nock, Michel, and Photos, 2008, p. 339). The two overall aims of our study are broken down into three main research objectives, one per case study:

OBJECTIVE 1: The first objective of the study is to identify differences between how two groups of learners with the same teacher carry out a course warm-up task. Our focus is to consider differences between the task-as-workplan and task-in-process, and we compare how the two groups of learners interact with each other in terms of learner engagement as they carry out a task in their respective classroom forums. To this end, in case study 1 we address the following research questions:

1. How do two groups of learners compare in terms of engagement while they are carrying out the same course warm-up task?

2. To what extent are the marks progressions in two groups of learners related to their observed behavioural and emotional engagement in a warm-up task?

OBJECTIVE 2: The second objective of the study is to establish whether learners with different marks progressions in one of the groups show differences in terms of their learner engagement over time. In order to achieve this objective, in case study 2 we address the following research questions:

3. How do learners' observed behavioural and emotional engagement evolve from the start to the end of the course?

4. How do changes in learners' observed behavioural and emotional engagement from the start to the end of the course relate to how learners' marks change during this time?

5. How does learners' observed emotional engagement vary when learners write an essay compared to what they do when they take part in the ensuing asynchronous discussion about their own essay and their classmates' essays?

OBJECTIVE 3: The third objective of the study focuses on cognitive engagement and the aim is to identify differences in language learning development over the course between three learners who demonstrate different levels of behavioural and emotional engagement. With this objective in mind, we address the following research questions in case study 3:

6. Do individual learners with different profiles in terms of marks progressions over the course demonstrate different levels of behavioural and emotional engagement?

7. To what extent do individual learners with different profiles in terms of marks progressions over the course show language development in their online forum contributions?

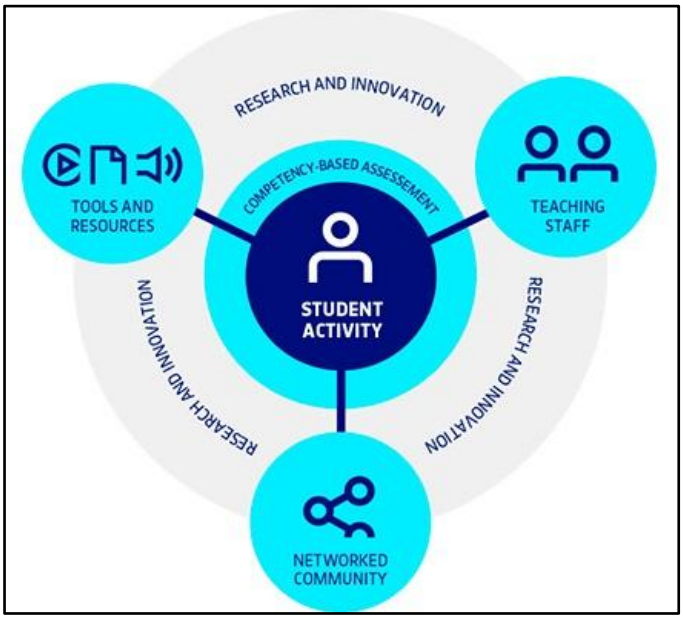
In order to address these questions, a corpus was prepared with data from two virtual classroom asynchronous discussion forums used for language learning. In the following section, we provide details about this context.

4.2 Context of the Study

The data for the study was obtained directly from the discussion forums of two virtual classrooms following a B2.1 English as a foreign language course at the Universitat Oberta de Catalunya (UOC) during the first semester of the 2016–2017 academic year. The UOC is a fully open university which has supported and encouraged language learning as a crucial part of its degree programmes since it was established in 1994. In 2008, the language courses were completely revised in order to ensure the quality and standards were in accordance with the Council of Europe (2001), and in 2015, new web materials and production tasks were designed and implemented for the B2.1 course.

The UOC's virtual campus, or learning management system (LMS), was designed and tailor-made for the UOC by its in-house technical department, guided and supported by the UOC's eLearn Center, whose goal it is to foster applied research in e-learning in order to benefit innovation and maximise the quality of teaching. The UOC's pedagogical model is shown in Figure 8 with student activity at the centre of the process.

Figure 8. UOC's pedagogical model



The UOC employs full-time subject coordinators and there are also two types of part-time staff: academic counsellors, who provide general advice for learners about studying at the UOC, and classroom teachers who are experts in the subjects they teach. The focus of the present research is the written communication in asynchronous discussion forums among the participants of two B2.1 English classrooms. With the learner at the centre of the learning process, learners are supported in their learning in three main ways:

- Course coordinators, who design the courses and select appropriate tools and learning resources for each of the courses,
- Classroom teachers, who provide students with regular support in the virtual classrooms, set up tasks, direct learners to the specific tools and communication areas in the virtual classroom, provide regular individual and whole-class corrective feedback, and assess their work, and
- Students are part of a networked community in the virtual classrooms and the online campus which allows them to connect with their peers, the teaching staff and technical and administrative support teams.

Classroom teachers at the UOC conduct mainly three tasks. Firstly, teachers are principally facilitators; this involves mediating between learners, between learners and the learning activities and between learners and the communication areas in the virtual classroom. This means that teachers need to be familiar with the learning activities and the functionalities of the communication areas so that they can guide and help learners through their learning experience. Secondly, teachers are expected to show presence in the different classroom communication spaces on a regular basis, which minimally means posting in the virtual classroom at least once every 48 hours. In this sense, teachers may show presence by:

- announcing activities are starting,
- reminding learners about upcoming deadlines,
- ensuring learners are on task,
- taking part in the learning activities themselves, either in the same way learners do or by moderating learners' interactions.

Teachers are also expected to provide regular whole-classroom feedback on the learning activities and tasks, commenting on common areas of difficulty in a one-to-many format. Thirdly, teachers evaluate learners for each of the assessed tasks on the course. In order to be able to carry out these different roles, new teachers are required to participate in an initial teacher development course

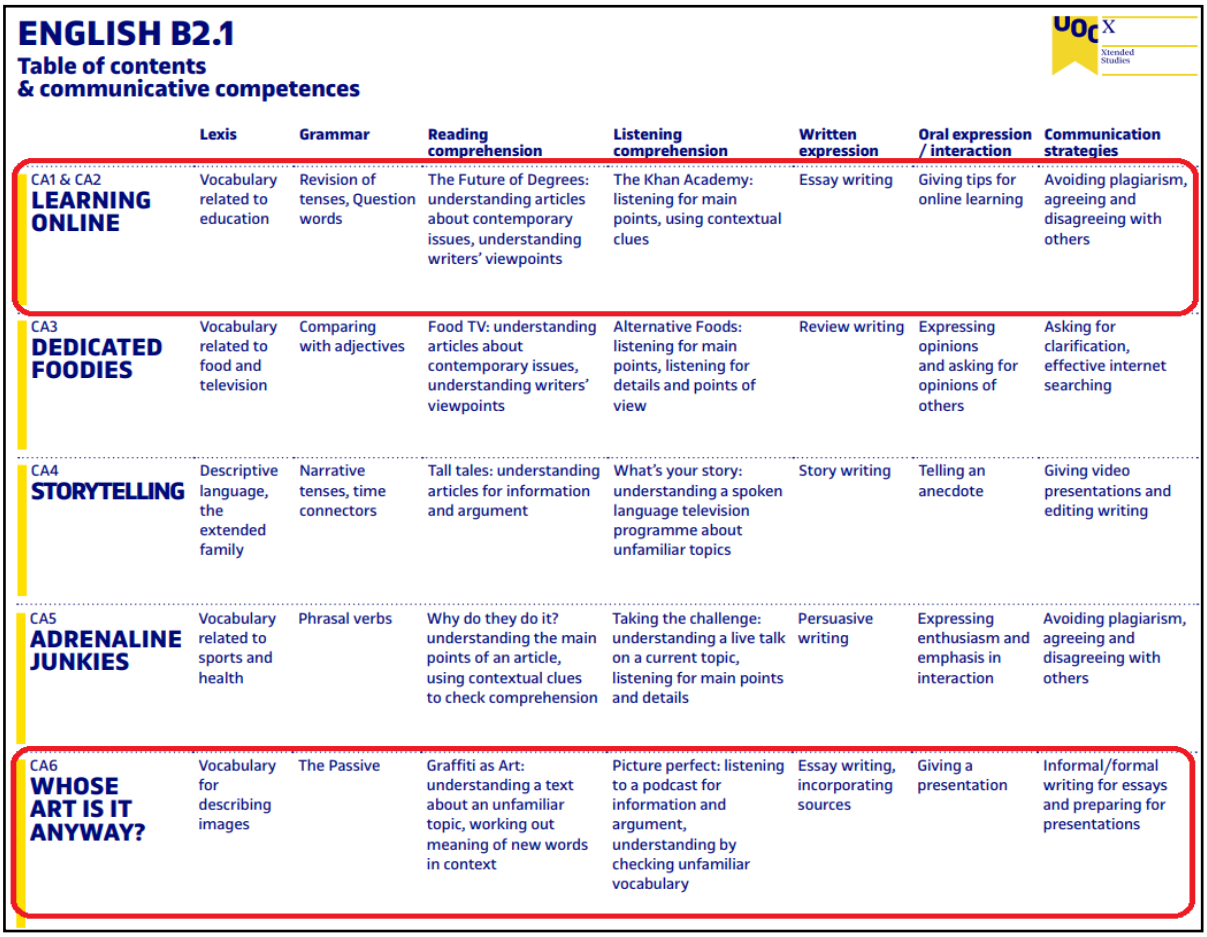
which takes place in a UOC virtual classroom and focuses on these three primary teacher roles. There is also an ongoing teacher development programme which takes place within the virtual staff room. Each semester, this programme focuses on different aspects of online language teaching such as how to provide effective feedback at an individual or a whole-class level, strategies to foster participation in learning activities, and marking standardisation. Marking standardisation activities are carried out each year to ensure that teachers are familiar with the marking criteria for the course and also to guarantee that all teachers at the level are marking to the same standard.

At the UOC, language teachers have classrooms with up to 50 students each. In order to manage such a large number of students over a relatively short course (13 weeks of assessed activities), teachers are encouraged to employ strategies to make students feel as included as possible while at the same time, maintaining sustainability and avoiding teacher burnout. In some of the classrooms, forums can have well over a thousand posts by the end of the semester; therefore, one of the most essential strategies to avoid teacher burnout is not to reply to each student each time they post, but instead, post a new message which acknowledges several students' posts each time. This helps students to feel they are being read and attended to, without focusing on any particular students; however, with the aim of maximising the democratic nature of forums and at the same time, minimising the power imbalance that teachers have (they are the assessors and so they have more power), teachers are also encouraged to take part in activities in the same way as other students. For example, if the task asks learners to carry write about something which requires others to read and guess something about the original post, then teachers are encouraged to guess too. We may therefore expect teachers to be posting more than individual learners, but not excessively so.

4.2.1 English B2.1 course.

The B2.1 English course consists of five units of self-correcting online materials and six continuous assessment (CA) activities which are designed for students to work on and provide evidence of the improvement of their written (through individual writing and collaborative writing tasks) and oral (through individual speaking and pair work interaction tasks) communicative skills. The course contents are detailed in Figure 9 and, as we said earlier, the corpus for the present study consists of posts from the forums of two classrooms. We consider the warm-up task and the first and last assessed writing tasks which are circled in Figure 9.

Figure 9. Table of contents B2.1 English course (Universitat Oberta de Catalunya, 2018)



ENGLISH B2.1
Table of contents
& communicative competences

	Lexis	Grammar	Reading comprehension	Listening comprehension	Written expression	Oral expression / interaction	Communication strategies
CA1 & CA2 **LEARNING ONLINE**	Vocabulary related to education	Revision of tenses, Question words	The Future of Degrees: understanding articles about contemporary issues, understanding writers' viewpoints	The Khan Academy: listening for main points, using contextual clues	Essay writing	Giving tips for online learning	Avoiding plagiarism, agreeing and disagreeing with others
CA3 **DEDICATED FOODIES**	Vocabulary related to food and television	Comparing with adjectives	Food TV: understanding articles about contemporary issues, understanding writers' viewpoints	Alternative Foods: listening for main points, listening for details and points of view	Review writing	Expressing opinions and asking for opinions of others	Asking for clarification, effective internet searching
CA4 **STORYTELLING**	Descriptive language, the extended family	Narrative tenses, time connectors	Tall tales: understanding articles for information and argument	What's your story: understanding a spoken language television programme about unfamiliar topics	Story writing	Telling an anecdote	Giving video presentations and editing writing
CA5 **ADRENALINE JUNKIES**	Vocabulary related to sports and health	Phrasal verbs	Why do they do it? understanding the main points of an article, using contextual clues to check comprehension	Taking the challenge: understanding a live talk on a current topic, listening for main points and details	Persuasive writing	Expressing enthusiasm and emphasis in interaction	Avoiding plagiarism, agreeing and disagreeing with others
CA6 **WHOSE ART IS IT ANYWAY?**	Vocabulary for describing images	The Passive	Graffiti as Art: understanding a text about an unfamiliar topic, working out meaning of new words in context	Picture perfect: listening to a podcast for information and argument, understanding by checking unfamiliar vocabulary	Essay writing, incorporating sources	Giving a presentation	Informal/formal writing for essays and preparing for presentations

Students on the English B2.1 course are all adult learners and the majority of them take the course as it represents the first part of the mandatory B2 language requirement that students need to meet to graduate at this university. A small number of students who enrol on the course are not working towards a degree but they are mixed in with the degree students in classrooms of up to the 50 students and are expected to take part in the course and carry out the same tasks as the other students.

The English B2.1 course adopts a task-based learning approach in the sense that learners carry out different types of tasks which resemble authentic situations. The subject coordinators design a set of tasks which cover learning objectives that are aligned to the CEFR descriptors for the B2 level and classroom teachers act as mediators between the tasks and the interactions which take place among the learners in the different communication areas. The course is organised in the following manner. For each assessed activity, learners start by working individually on self-correcting materials which offer language input at the B2 level in the five skills we referred to in chapter 2, namely reading, writing, listening, speaking and interacting. Once they have become familiar with the topic, structures and vocabulary presented in the self-study materials, they carry out oral and written

productive tasks designed by the course coordinators. Not all of the tasks within each learning activity are assessed and some of the tasks are worked on individually and others in groups. Three of the assessed tasks (the first two and the last) are carried out individually and the remaining tasks are conducted either in pairs (for speaking tasks) or in small groups (collaborative writing tasks). Our study presents the analysis of contributions from learners and the teacher for the course warm-up task, the first and the final assessed written tasks (see section 4.2.3). Table 3 provides an overview of the course; the tasks included in this study are indicated in red.

Table 3. Overview of learning activities B2.1 course 2016-2017 Semester 1

Learning activity	Details about the tasks	Communication tools
Warm-up task	Individual	Classroom Forum
Task 1 Learning Online 1	Asynchronous individual speaking	Langblog (UOC classroom tool)
Task 2 Learning Online 2	Asynchronous individual writing	Classroom Forum
Tasks 3.1 and 3.2 Dedicated Foodies	· Asynchronous collaborative writing · Synchronous pair work speaking	· GDrive and Classroom Forum · Tandem (UOC classroom tool)
Tasks 4.1 and 4.2 Storytelling	· Asynchronous collaborative writing · Asynchronous individual speaking	· GDrive and Classroom Forum · Langblog
Tasks 5.1 and 5.2 Adrenaline Junkies	· Asynchronous collaborative writing · Synchronous pair work speaking · Listening comprehension	· GDrive and Classroom Forum · Tandem (UOC classroom tool) · Moodle
Tasks 6.1 and 6.2 Whose art is it anyway?	· Asynchronous individual writing · Asynchronous individual speaking · Reading comprehension	· Classroom Forum · Langblog (UOC classroom tool) · Moodle

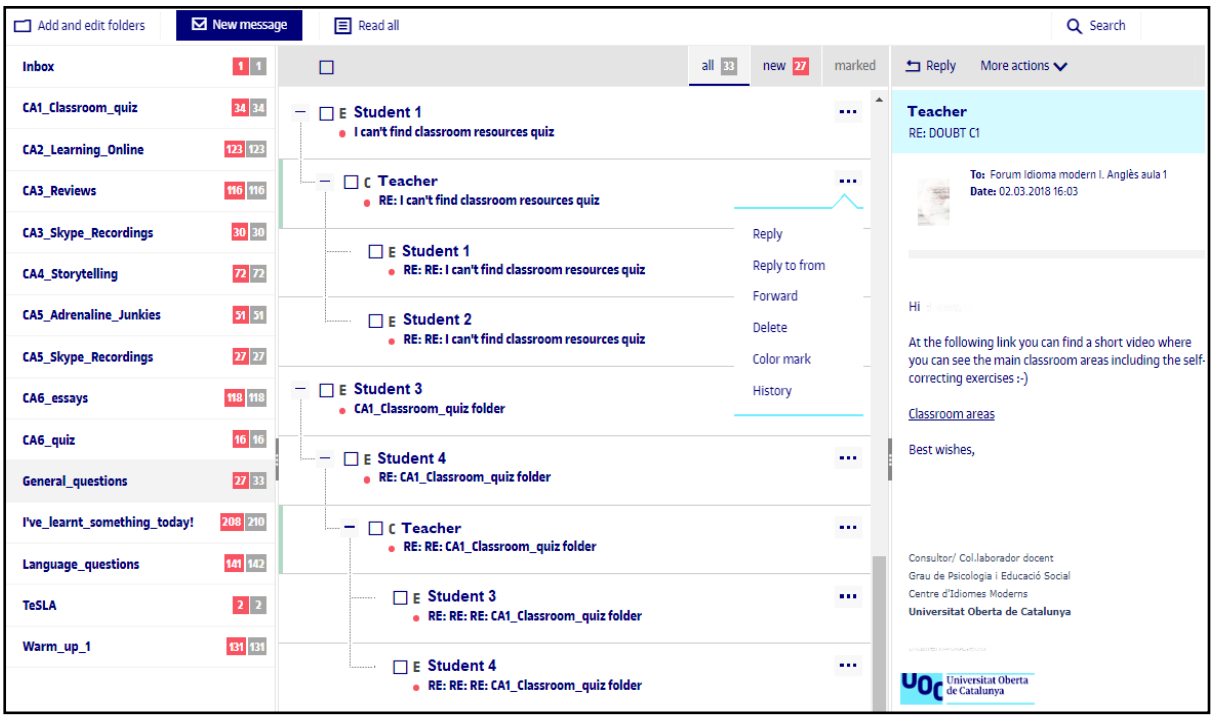
4.2.2 The English B2.1 Forum.

The B2.1 course virtual classrooms are equipped with specific tools for different language learning purposes which are:

- web-based self-correcting exercises which provide learners with language input and language practice activities,
- a video blog tool (Langblog) which is used for learners to carry out individual speaking,
- a pair work speaking task provider (Tandem) which learners use in pairs while carrying out a videoconference call,
- GDrive for learners to work on collaborative writing in small groups, and
- a discussion Forum where learners post their individual writing tasks.

These different communication tools and spaces are used at specific times over the semester but, as we said, the present study just focuses on one of these tools: the classroom forum. In this context, the forum plays a central role throughout the course because it serves as the main locus where assessed written tasks take place and is also used by learners and the teacher from day 1 of the course for interpersonal communication. Figure 10 shows what a discussion forum can look like at the end of the course in a B2.1 virtual classroom.

Figure 10. Screenshot of a B2.1 classroom Forum



These forums have various functionalities which help the day-to-day use by all participants. The forum is searchable, posts are displayed in conversational threads and they can be organised into folders. As can be seen in Figure 10, this forum has different folders for the different learning activities, such as “Warm_up_1” and “CA2_Learning_Online”. This feature helps participants identify more easily where to post their contributions for the different learning activities or find where to ask general questions about the course. The teacher can mark posts and in the example in Figure 10, the teacher has marked their own posts in green (green vertical bar next to the posts) to make them easier for learners to identify. In addition to these functionalities, the usual features of reply, reply to sender and forward are available in these forums for all learners.

Before providing details of the data from the discussion forums included in this study (see section 4.3), we will first consider the specifics of the tasks the learners worked on in this study, followed by details about the participants.

4.2.3 The tasks.

As we said earlier, the present study analyses two separate groups of participants' contributions to asynchronous discussion forums for one task, a course warm-up and then one of the group of participants' contributions for the first and final assessed individual writing tasks. Table 4 provides an overview of the principal characteristics of the three tasks.

Table 4. Principal characteristics of the three tasks

	Warm-up task	CA2 Learning online (first assessed task)	CA6 Whose art is it anyway? (final assessed task)
Communicative area	Forums of classroom 1 and 2	Forum of classroom 1	Forum of classroom 1
Topic	Presentations	Learning online	Art
Word length	40-60 + replies	150-200 + replies	150-200 + replies
Genre	Not specified, but online correspondence	Essay	Essay
Assessed	No	Yes	Yes
Required contribution	No	Yes	Yes
Scheduled duration of task	6 days	7 days	8 days
Actual duration of task	classroom 1 = 10 days classroom 2 = 14 days	9 days	16 days

As we can observe in Table 4, the three tasks all take place in the classroom forums and each task involves learners posting a main contribution and replies to each other. For the warm-up task where learners are asked to write 40-60 words plus replies, but for the assessed tasks, learners are required to write 150–200 words for their main contributions. Full details of the three tasks are provided in the following sections, but we first consider previous studies relating to the types of tasks for language learning in order to provide background context for the tasks selected for this study.

Much of the research into the effect of different task types on language output draws on the task-type classification proposed by Pica, Kanagy and Falodun (1993) which identifies five task types: information gap, jigsaw, problem-solving, decision-making, and opinion exchange. These task types differ in terms of the degree of information exchange required to complete the task, with information gap tasks requiring the highest level of information exchange, to opinion exchange tasks which require the lowest amount. Opinion exchange tasks are the most open-ended whereas information tasks are more controlled in nature. Several researchers have investigated the effect of

different types of tasks and the amount of participation they produced. For example, Smith (2003) compares participation between jigsaw and decision-making tasks in synchronous computer-mediated communication (SCMC), finding a significantly higher amount of negotiated turns took place in decision-making tasks, whereas Kitade (2006) finds that jigsaw tasks promote negotiation in asynchronous CMC. Other research has focused on the difference between synchronous communication and face-to-face contexts (Vandergriff, 2006) or on the quality of language that learners produce in different types of task (Park, 2007). On the other hand, Brandl's (2012) study of online learners of German investigates the effects of two tasks which differed in one crucial aspect: whether the information exchange was optional or essential for completing the task. Brandl hypothesises that tasks in which information exchange is essential will be more conducive to learner output than those in which information exchange is optional, but finds instead that more open-ended tasks lead to more production in terms of quantity of target language words and communication units. Another factor identified as having an effect on student participation in online forum tasks is whether tasks are assessed or voluntary. In his review of research into dimensions affecting student participation, Alzahrani (2016), finds assessment to be one of the critical factors affecting student participation in online forum tasks in many different subjects (although not specifically related to language learning) in Saudi Arabia; the learners in Alzahrani's study participate more when they know assessment is a factor. In a language learning context, Rodríguez-Juárez and Oxbrow (2010) also find evaluation to be a major factor affecting overall student participation in Moodle forums, although they note that lower level students participate more than higher level students. They conclude that the issue is less related to passivity, and more to do with students' limited autonomy, recommending that learners should receive more training and also be closely monitored.

In our research, the three tasks analysed were selected for two main reasons. Firstly, we wanted to explore how learners carried out tasks which were as similar are possible in terms of tasks-as-workplan and as we have seen in the overview in Table 4, all three tasks take place in the classroom forums, all three are individual writing tasks and they all instruct learners to post a main contribution and then take part in an asynchronous debate about the respective topics of each task. Our second reason for choosing these three tasks was to observe changes in the three dimensions of learner engagement over time. In this sense, we were able to identify the first and final assessed tasks which are very similar in terms of task requirements and while the warm-up task differs from the other two tasks in that it is not assessed, it does provide us with the opportunity to explore how the participants begin to build the sense of community from the start of the course. We will now proceed to describe each task in detail.

4.2.3.1 Warm-up.

The first task in the B2.1 English course is a written warm-up activity in the classroom forum. The main aim is for the course participants (students and teacher) to get to know each other and start to use the central place in the classroom for communication: the forum. At the UOC, teachers can choose to run any kind of warm-up task in their classrooms, but they are strongly encouraged to hold part of the warm-up in the Forum. In the classrooms in the study, which both have the same instructor, the teacher chose an activity which encourages learners to find out about each other and identify similarities with their classmates. This warm-up task asked students to write 40–60 words about themselves, read their classmates' contributions to identify people they had something in common with and reply to those other participants. The course warm-up task at the UOC is neither compulsory nor assessed, but the task is essential at the start of the course as it encourages learners to share personal details and identify common aspects with one another, both of which help to promote a sense of group cohesion, which will be helpful as the course progresses. The instructions the teacher posted for this task are given in Figure 11 below.

Figure 11. Task instructions for the warm-up

Task: Warm-up task What do we have in common?

Objective: To get to know your classmates. This will help communication later in the course; to begin to use English in a simple way.

Instructions:

1) Send a short description of yourself with 3 or 4 pieces of information. For example, you can write about your interests, your family, your town, your job, your past, your future plans etc. Maximum 40-60 words.

2) Read your classmates' description. Try and find one or two other people who have at least ONE thing in common with you (one thing the same as you). It is not necessary that you wrote this thing in your description. This common thing must not be too obvious (Example, you both study the same course, you both speak Spanish – these things don't count!).

3) Write a new message (in reply) to that person and say that you have this thing in common. You can start a mini-conversation if you want.

For example:

Hi Manuel!
My name is Tom. We both have two children. What a coincidence! I have two girls, one is 3 years old and the other is 10 months. Do you have girls or boys? How old are they?
Talk to you soon!
Best wishes,
Tom

USEFUL LANGUAGE:

We both... / You do.... So do I. / I do, too. / Me too. / You can... So can I. / I can, too. / Me too. / What a coincidence!

In terms of the task-as-workplan, the warm-up task is scheduled to take place over six days but as the task is not assessed, teachers encourage learners to continue posting for this task as long as they wish to. As we saw in Table 4 above, in one of the classrooms included in the study, the warm-up task continued for ten days and in the other, it lasted for fourteen days.

4.2.3.2 Essay on online learning.

For the first assessed essay task, the topic is online learning. The instructions for the task are given in the Figure 12 below.

Figure 12. Task instructions for the essay on online learning

You see a call for short essays about learning online to be published on your university's webpage.

Call for Essays!

1. Write a **150–200 word essay** answering **one** of the following questions:

- Why did you choose to study online and how does it differ from your previous learning experiences?
- How can you minimise the loneliness of studying online?
- Can you learn absolutely anything online (watch this video from the Big Bang Theory for a little inspiration)?

2. Good writers learn from others so when you have posted your contribution, read some of the other essays and reply to them (**at least two**). In your reply answer some (or all!) of the following questions:

- Do you share the writer's experiences and/or thoughts?
- Can you give the writer any advice about learning online?
- Did you learn anything from their essay (ideas or language items)?

In terms of the task-as-workplan, this first assessed task is scheduled to take place over an 8-day period and requires learners to write 150-200 words on one of the three essay question options. Learners are also instructed to read and reply to at least two of their classmates. Learners are not awarded marks for higher participation per se, although teachers may adjust marks if they see particularly high or particularly low participation. The task is a fairly standard opinion exchange type of task where there is no specific information exchange required. It does however require learners to display awareness of essay-writing conventions as well as level-specific linguistic features. The

principal differences between this task and the warm-up task above are in terms of whether the task was required and assessed, the word length, topic, genre and overall aims.

4.2.3.3 Essay on art ownership.

The topic for the final assessed essay task is art ownership. The instructions for the task are given in Figure 13 below.

Figure 13. Task instructions for the essay on art ownership

Whose art is it anyway? Essay

1. Choose **one** of the following statements and **write a discursive essay** of **150-200 words**:

- Entry fees for museums are completely justified.
- Art work should always be kept in its country of origin.
- Paying a lot of money for an original piece of art is a waste of money when you can buy a copy for a fraction of the cost.
- Art that offends a section of society should be censored.

2. Read other essays in the Forum and reply to **at least two** of them. In your replies, you can consider:

- Do you agree with the writer's opinion? Why/Why not?
- Can you recommend any information sources for further reading about the topic?

In terms of task-as-workplan, this assessed task again requires learners to write 150-200 words, choosing between four essay question options, answering one of them and then reading and replying to at least two of their classmates' posts. As with the first assessed task, learners are not awarded marks for higher participation per se, although teachers can again adjust marks if they see particularly high or particularly low participation. The task is an opinion exchange task although there is no specific information exchange required. It does however involve learners displaying an awareness of essay-writing conventions as well as level-specific linguistic features. The fact that the two assessed tasks have essentially the same task requirements, differing principally in the topics, make them optimal tasks to compare in terms of task-in-process, or what learners actually do with the tasks, in terms of their behavioural, emotional and cognitive engagement.

4.2.4 Participants.

The participants in the study are one teacher and 73 learners from two separate virtual classrooms following a fully online B2.1 English as a foreign language course at the Universitat Oberta de Catalunya (UOC). We chose two classrooms from this course for our analysis for two principal reasons. Firstly, this is one of the two compulsory subjects at the UOC and the forums are more

active than those in other courses. Secondly, the researcher works as subject coordinator on this course and is therefore very familiar with the course design and profile of the learners. The two classrooms were selected as they were the only two who had the same teacher during the academic semester we extracted our data from. This meant that we could focus on how different groups of learners carried out the tasks, and not on differences deriving from teaching styles or assessment standards.

4.2.4.1 The teacher.

The classroom teacher in this study is the same person in each group. He has been an English instructor at the UOC for more than ten years and has over twenty years' experience teaching English in other contexts. In case study 1 and 2 he is considered as any other forum participant. In case study 1, the fact that the two classrooms we examine have the same teacher means that possible differences in teaching styles and assessment standards are minimised as far as possible. As case study 3 focuses on the language development of 3 learners, he is not an informant. As we will see in section 4.3.2.1, our analyses in case study 1 and 2 are based on learners being categorised according to how their holistic writing marks progressed across the course. This means we relied on how the teacher marked the learners' work. Although all of the language teachers at the UOC take part in regular marking standardisation activities to maximise the consistency of assessment for all of the learners on the same course, we bear in mind that "different raters read different things into papers and bring their own values and experiences into the rating process" (Weigle, 2007, p. 204); by choosing two classrooms with the same teacher enabled us to maximise the consistency of marks awarded to the learners in the study.

4.2.4.2 The learners.

The learners are all adults who are studying part-time. At the start of each semester, learners are randomly assigned to the virtual classrooms. At the start of the course, there were 34 learners assigned to classroom 1 and 39 learners assigned to classroom 2. Both language classrooms included in the study have learners who are following a range of degree programmes and must take the language course as a degree requirement, but they also include learners who are not following degrees.

As we mention earlier, in case study 1 our corpus is made of the total 73 students in this B.2.1 course (see chapter 5); in case study 2 we narrow down the scope to look at the 34 students in classroom 1 (see chapter 6); finally, in case study 3 we focus on 3 learners from classroom 1 (see chapter 7). In case study 1 and 2 students in both classrooms are grouped according to how their marks progressed throughout the course (see section 4.3.2.1) and whether their marks had gone down,

stayed the same or improved, and whether they took part in one or both of the assessed writing tasks. For case study 2, we selected classroom 1 because it included participants from all five marks progression groups. For case study 3, we selected three learners from classroom 1; in order to make our selection, we identified learners who were neither the most nor the least active participants in their respective marks progression groups so that they were as representative as possible of the other learners in their respective marks progression groups. Other considerations were also taken into account: gender, previous learning experience in the context of the institution and whether they were degree students or not. Reviewing the information available to me, the three female learners selected were all taking a language course at the UOC for the first time. The three learners selected for case study 3, Alicia, Carolina and Iris (pseudonyms) were representative for each of the three groups who took part in both assessed tasks; therefore, one learner was selected from the marks-down, marks-same and marks-up groups, from classroom 1. In the marks-down group, Alicia was chosen from the two possible learners in this group as this was her semester at the UOC (as with the other two learners in case study 3): her marks progressed from A for the first assessed task to B for the final assessed task. From the marks-same group, Carolina was identified from the 17 possible learners on the basis that the number of posts she sent to the forum was the median among the learners in this group and it was her first semester at the UOC: her marks remained constant over the course and she was awarded C+ for both tasks. From the marks-up group, Iris was selected from the 5 possible learners in this group because she was the only one who was taking a course at the UOC for the first time: her mark for the first assessed task was C+ and for the final assessed task, she was awarded a B.

4.3 Data Collection and Treatment

This section details how the corpus for the three case studies was collected and prepared. As we said earlier, our corpus is comprised of the course marks and the posts in the forums of students from two virtual classrooms from the UOC B2.1 English course. Before collecting the data, permission was obtained from the UOC's Ethics Committee to gather and analyse the data. The data was anonymised and participants are all referred to with pseudonyms to ensure privacy and compliance with the informants' data protection regulations. In my role as course coordinator, I had access to the course marks awarded by the teacher. The data management team at the UOC provided assistance by providing numerical data regarding total numbers of posts per participant, per task, and per classroom, as well as information about the posts read and post read dates. Access was also granted to use a Beta version of a Chrome extension ("Flyzer – Forum analyzer") developed by a colleague at the UOC and this was used to confirm details about participant post and response rates.

4.3.1 The corpus.

Although the whole bulk of participants in our study come from the same two classrooms, it is the research goals of each case study that determines the configuration of the corpus in our study. We will briefly comment on this.

4.3.1.1 The corpus of case study 1.

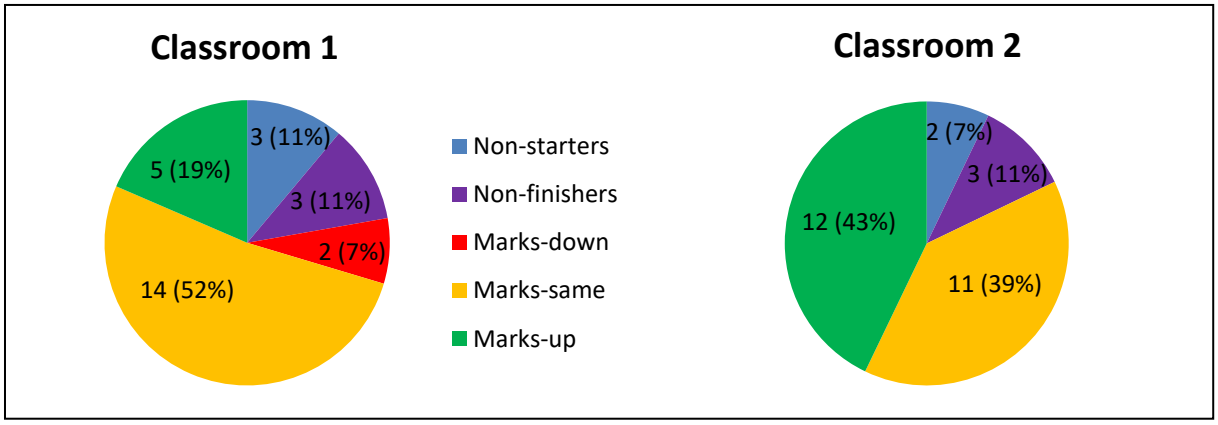
The corpus of case study 1 is comprised of the posts from two classrooms for the warm-up task. Table 5 below shows details of the number of participants, the number of posts and the number of words for each classroom.

Table 5. Numerical summary of the corpus for case study 1

	classroom 1	classroom 2
#words	5,517	5,287
#participants	28	29
#posts	67	85

As explained in the previous section, learners were grouped according to how their marks progressed over the course and full details about these groups are provided in section 4.3.2.1. Figure 14 shows the composition of these groups across both classrooms and in each classroom. They do not include the total number of students in each classroom, but only the learners who took part in the warm-up task.

Figure 14. Marks progression groups for each classroom for case study 1



4.3.1.2 The corpus of case study 2.

In case study 2, our corpus is composed of the forum posts of the participants in classroom 1 while they take part in the warm-up task we examined in case study 1 and two compulsory essay writing

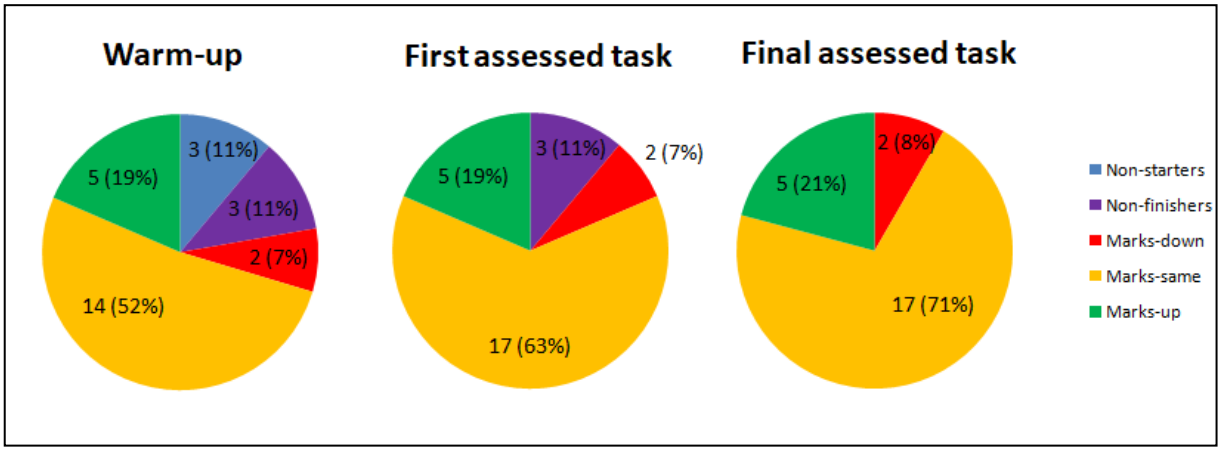
tasks (see section 4.2.3). Table 6 gives an overview of the data collected and analysed in case study 2.

Table 6. Numerical summary of the corpus for case study 2

	classroom 1
Warm-up (unassessed task)	
#words	5,517
#participants	28
#posts	67
CA2 (assessed task 1)	
#words	11,141
#participants	29
#posts	95
CA6 (assessed task 2)	
#words	10,290
#participants	24
#posts	84

Figure 15 shows the marks progression groups in classroom 1 across the three tasks. Full details about the marks progression group are provided in section 4.3.2.1. The charts in Figure 15 do not include the total number of students in the classroom, but only the learners who took part in the three tasks.

Figure 15. Marks progression groups for the three tasks for case study 2



4.3.1.3 The corpus of case study 3.

In case study 3, our corpus is composed of the data of three students from classroom 1 while they take part in the warm-up task we examined in case study 1 and two compulsory essay writing tasks (see section 4.2.3). Table 7 gives an overview of the data collected and analysed in case study 2.

Table 7. Numerical summary of the corpus for case study 3

	3 learners from classroom 1
Warm-up (unassessed task)	
#words	566
#participants	3
#posts	8
CA2 (assessed task 1)	
#words	973
#participants	3
#posts	9
CA6 (assessed task 2)	
#words	1240
#participants	3
#posts	10

4.3.2 Data treatment.

In this section of the chapter, we explain in detail how the whole bulk of our data was treated. We will explain how the mark progression groups were formed and how posts were categorised.

4.3.2.1 Data from students marks

The marking criteria used on the B2.1 course during the first semester of the 2016-2017 academic year, when the data for this study were collected, are provided in the appendix. Essentially, they are broken down into five main categories: task achievement, comprehensibility and register, cohesion, coherence and organisation, vocabulary range and control, and grammatical range and accuracy. However, learners are awarded a holistic mark out of 10 which is then converted to the equivalent letter mark, according to the conversions in Table 8.

Table 8. Numerical to letter marks conversion

Numerical mark	Corresponding letter mark
9, 10	A
7, 8	B
5, 6	C+
3, 4	C-
1, 2	D

Learners who do not submit work for a particular task are awarded a letter mark of N (Not presented). For the purposes of the present study, the marks analysed are the letter marks learners were awarded as these are the marks recorded on their academic records.

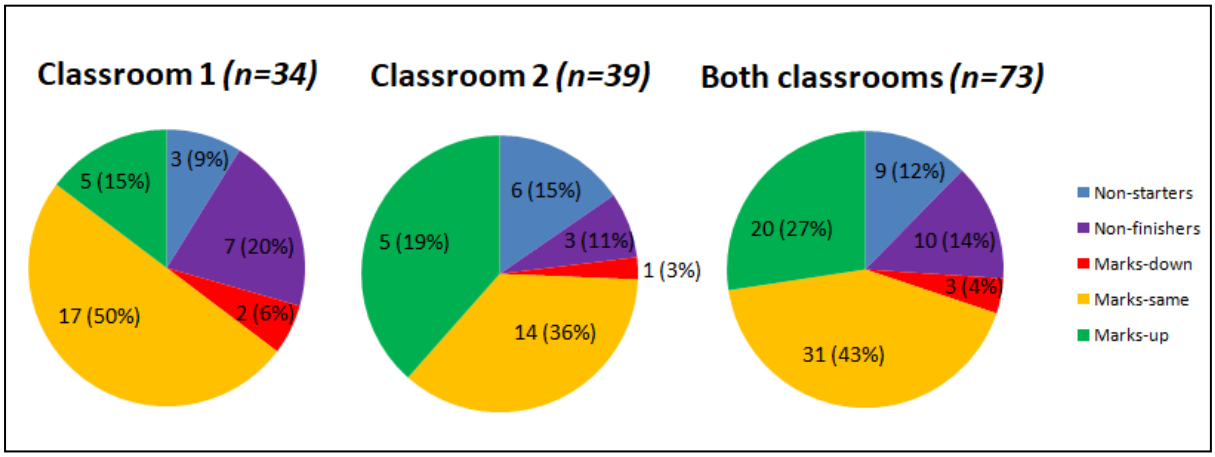
Data for case study 1 and 2 were obtained from the Learning Management System (LMS). By comparing the marks obtained in the first and the last assessed writing tasks for the learners in the two classrooms, 14 different marks progressions were identified. These 14 types of marks progressions were grouped according to mark main groups as shown in Table 9.

Table 9. Marks progression groups

Marks progression types	Marks progression groups (MPGs)	Description
N → N	Non-starters	learners who did no assessed work on the course (but may have participated in the unassessed warm-up task)
A → N **B → N** **C+ → N** **C- → N**	Non-finishers	learners who took part in at least one assessed task but did not complete the course
A → B	Marks-down	learners whose marks for the final assessed written task were lower than the mark for the first assessed written task
A → A **B → B** **C+ → C+**	Marks-same	learners whose marks for the final assessed written task were the same as the mark for the first assessed written task
B → A **C+ → A** **C+ → B** **C- → B** **C- → C+**	Marks-up	learners whose marks for the final assessed written task were higher than the mark for the first assessed written task

The charts in Figure 16 show the proportion and numbers of students in each classroom separately and in both classrooms together in terms of these five marks progression groups (MPG). These breakdowns differ from those shown in Figure 14 above because they take into account the total number of learners assigned at the start of the course to each classroom.

Figure 16. Proportion of learners in the study according to MPGs



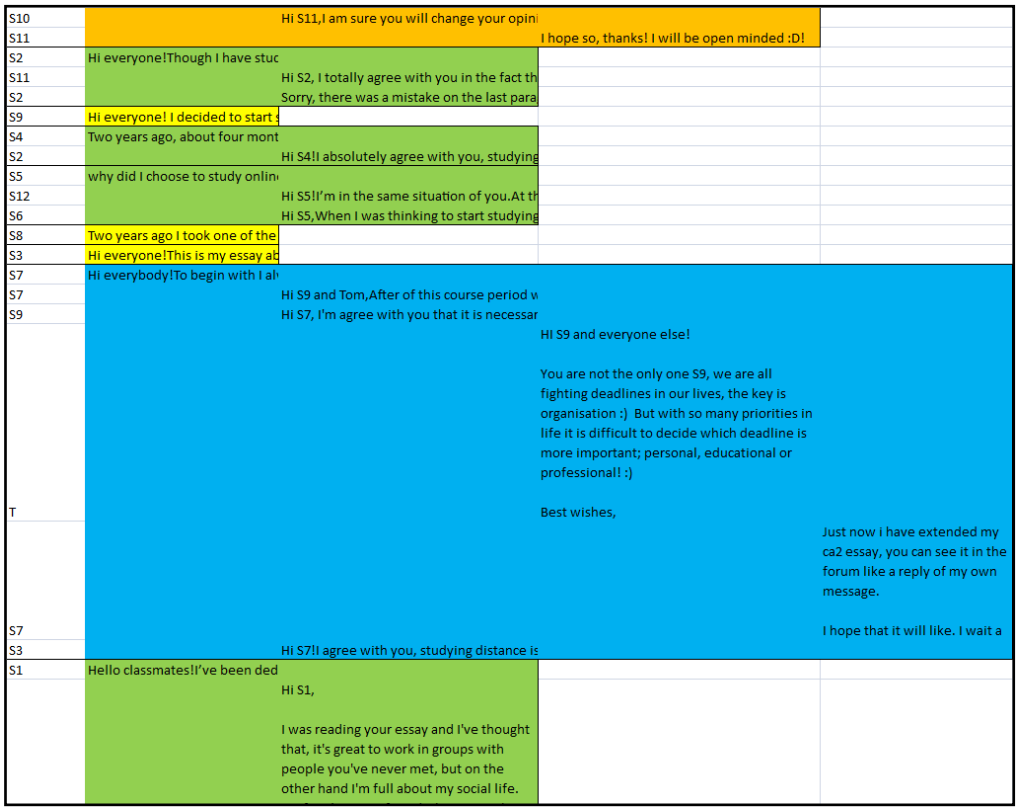
As can be seen in Figure 16, the proportion of learners in each MPG is different in the two classrooms. Whereas the marks of half of the learners in classroom 1 remain the same and in the case of 15% of learners their marks increased, in classroom 2, 36% of the learners' marks remained the same while in the case of 38% of the learners their marks went up. The proportion of learners who did not finish the course is considerably higher in classroom 1 (20%) than in classroom 2 (8%) but there were more non-starters in classroom 2 (15%) than in classroom 1 (9%). The proportion of learners whose marks went down over the course was small in both classrooms (6% and 3%).

4.3.2.2 Data from forum posts.

4.3.2.2.1 Data sorting.

Initially, the posts were downloaded and saved in an Excel spreadsheet so that the original discussion threads could be maintained. Figure 17 shows what the data looked like at this stage. Each thread was colour-coded according to how deep the thread was; that is how many levels of threading it contained.

Figure 17. Screenshot of data extract in Excel



In Figure 17, yellow indicates a post with no responses, green indicates a thread containing a main post and one or more first-level responses, orange indicates a thread containing a main post, one or more first-level responses and one or more responses to the first-level responses, and blue indicates a discussion thread containing a main post, responses to the main post, responses to the first-level responses and responses to the second-level responses. Reading and analysing the contents of the posts was deemed impractical in Excel but the spreadsheet version of the corpus provided the opportunity to carry out several important actions: post labelling, reordering posts according to participant, classroom, task, date, and calculating word counts for individual participants, tasks and classrooms.

At this stage, results were collated for participation and interaction per classroom, per task and per student for the following measures:

- Number of posts
- Number of words
- Threading characteristics
- Number of interactions
- Number of posts received

Additional information from the LMS about posts read was provided from the technical department at the UOC. The data obtained from the LMS included timestamps for posts read per student per post. After reordering the spreadsheet data into participant/task/date order and carrying out a provisional count, it appeared that nearly all students had read all of the posts in the warm-up task. This seemed to indicate that all students were taking part in the task and reading every other post from their classmates. However, on closer inspection of the timestamps, it was evident that many of the post timestamps were days, weeks and in some cases months after the task had finished. It is possible learners mark unread messages as read, without actually reading them and in this sense, it is impossible to know for sure if learners continued to read posts for older tasks or not. Therefore the decision was taken to include only the data for posts read for those which were read up to two days after the last new post was sent for the task. While subsequent reading of posts may have been deliberate in some cases, there always exists the possibility that it was not. It was therefore decided not to include reading of posts outside of the dates during which the task took place. Having decided to count posts read and the number of different dates that posts were read up to two days after the task ended, on reviewing the data obtained from the LMS again, it was clear that it was misleading because in some cases, the total number of posts read was higher than the total number of posts in the Forum. It was therefore decided not to report on the number of posts read and instead report on the proportion of total possible read-dates while the task was taking place.

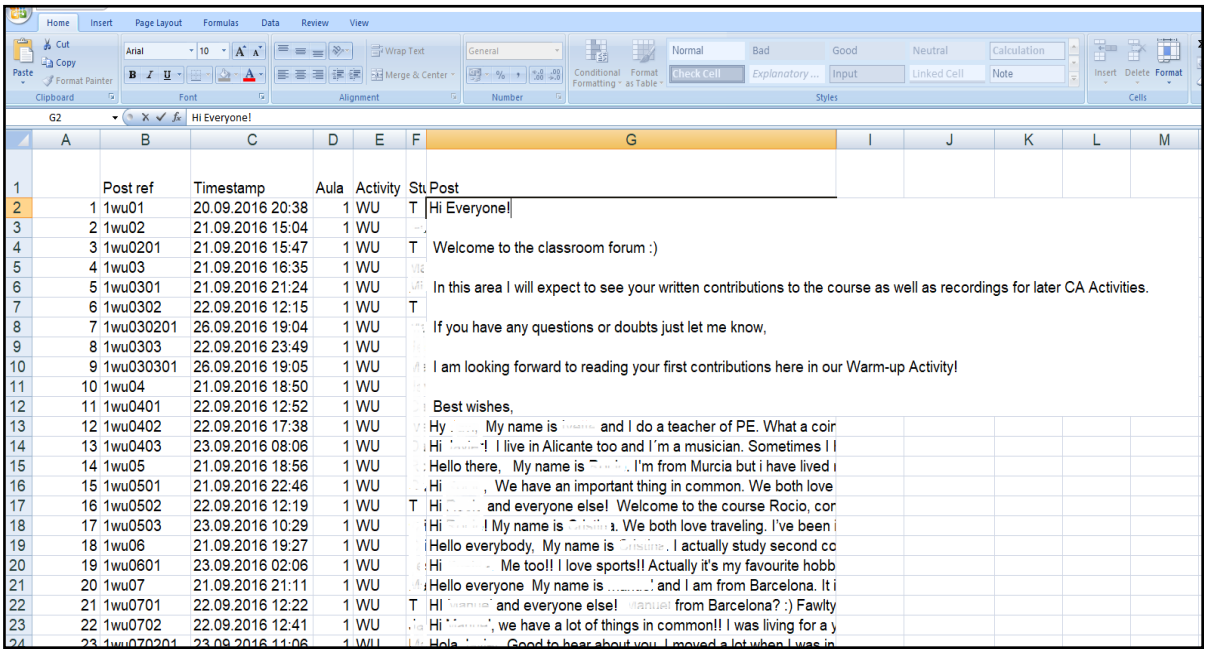
4.3.2.2.2 Labelling posts.

A key task at this point was to devise a labelling system for the posts which would enable us to identify each post and include information about where in the forum the post was and where in the thread it was. The label system devised was:

classroom number / task / thread number / reply / reply to reply / etc.

For example, **2wu0801** indicates that the related post is from classroom 2, from the warm-up task. The 08 indicates it is a post from the 8th thread and the 01 indicates it is the first post in that thread. This system means that when the posts were analysed in Atlas.ti (see next section), it was possible to visualise which posts were part of the same conversation or thread. Figure 18 shows what the data looked like after the post labels had been incorporated.

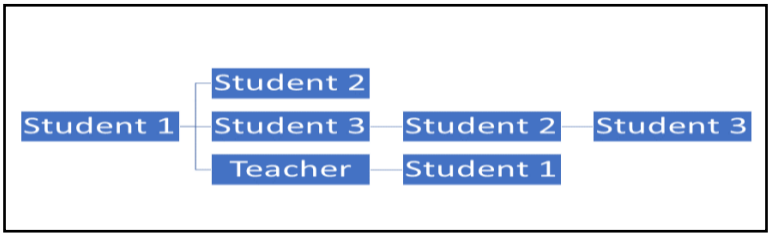
Figure 18. Screenshot of data in Excel with post labels



	Post ref	Timestamp	Aula	Activity	St	Post
2	1wu01	20.09.2016 20:38	1	WU	T	Hi Everyone!
3	1wu02	21.09.2016 15:04	1	WU		
4	1wu0201	21.09.2016 15:47	1	WU	T	Welcome to the classroom forum :)
5	1wu03	21.09.2016 16:35	1	WU		
6	1wu0301	21.09.2016 21:24	1	WU		In this area I will expect to see your written contributions to the course as well as recordings for later CA Activities.
7	1wu0302	22.09.2016 12:15	1	WU	T	
8	1wu030201	26.09.2016 19:04	1	WU		If you have any questions or doubts just let me know,
9	1wu0303	22.09.2016 23:49	1	WU		
10	1wu030301	26.09.2016 19:05	1	WU		I am looking forward to reading your first contributions here in our Warm-up Activity!
11	1wu04	21.09.2016 18:50	1	WU		
12	1wu0401	22.09.2016 12:52	1	WU		Best wishes,
13	1wu0402	22.09.2016 17:38	1	WU		Hy , My name is and I do a teacher of PE. What a coir
14	1wu0403	23.09.2016 08:06	1	WU		Hi ! I live in Alicante too and I´m a musician. Sometimes I l
15	1wu05	21.09.2016 18:56	1	WU		Hello there, My name is . I'm from Murcia but i have lived i
16	1wu0501	21.09.2016 22:46	1	WU		Hi , We have an important thing in common. We both love
17	1wu0502	22.09.2016 12:19	1	WU	T	Hi and everyone else! Welcome to the course Rocio, cor
18	1wu0503	23.09.2016 10:29	1	WU		Hi ! My name is . We both love traveling. I've been i
19	1wu06	21.09.2016 19:27	1	WU		Hello everybody, My name is . I actually study second co
20	1wu0601	23.09.2016 02:06	1	WU		Hi Me too!! I love sports!! Actually it's my favourite hobb
21	1wu07	21.09.2016 21:11	1	WU		Hello everyone My name is ' and I am from Barcelona. It i
22	1wu0701	22.09.2016 12:22	1	WU	T	HI and everyone else! from Barcelona? :) Fawlty
23	1wu0702	22.09.2016 12:41	1	WU		Hi ', we have a lot of things in common!! I was living for a y
24	1wu070201	23.09.2016 11:06	1	WU		Hola Good to hear about you. I moved a lot when I was in

It is worth noting at this point that, in theory, forum participants make use of the threading system in the forums and learners who wish to interact with another person will reply to the first person's post. Figure 19 clarifies how threads may be structured and shows seven posts and four participants (including the teacher) in a four-level thread where there are replies to an initial post that trigger other replies reaching up to four levels of depth.

Figure 19. Structure of posts in a thread



Threading is a way for sub-discussions within a particular forum to take place, so that students can interact together about a particular topic of interest. This can tell us quite a bit about those students if we consider that participants have a choice and can opt to respond to and interact with specific topics and other participants. Within the context of this study, this can help us understand who individual learners are engaging with. For example, if a learner responds to and interacts with a wider variety of other participants, this might indicate that they are more engaged with the course. If they respond to and interact with fewer people, but to a greater degree, we could postulate that they are particularly engaged with other participants.

We must also consider, though, what Thorne (2018, 2019) has referred to as “desire lines”. Thorne (2018, 2019) points out that humans interact with technology in their own way and may not always use technology in the way it was originally designed. In the context of discussion forums, clicking on the ’reply’ button would seem to be the optimum way to respond to classmates and take part in a discussion thread. However, participants in our context do not always do this; instead, they opt to start a new thread even though it is clear from what they write that they are replying to other participants. Bearing this caveat in mind, in the context of the present research, we still deem it useful to report on the structure and composition of threads as various other researchers have done (for example, Meyer, 2003; Mazzonlini and Maddison, 2003; Kay, 2006; Bratitsis and Dimitracopoulou, 2006; Hew and Cheung, 2008) in order to complement other measures of interaction because a higher rate of longer discussion threads may be a sign of deeper learning (Mazzonlini and Maddison, 2003) and deeper threads may be indications of sustained or extended discussion taking place (Hew and Cheung, 2008).

4.3.2.2.3 Preparing the data for qualitative analysis in Atlas.ti.

After having sorted the posts into thread order in Excel, the data were reduced so they only included three aspects: post, participant, and post label. The data were then imported into Atlas.ti (v7), a software for qualitative data analysis and management. Codes were added for each user so that we could obtain results for individual learners, marks progression groups, classrooms and in total. The next stage consisted of entering ‘a priori’ codes for the indicators of social presence. The indicators adopted are those proposed by Satar and Akcan (2018), which were adapted from Rourke et al. (1999), Swan and Shih (2005), and Shea et al. (2010). The coding system from Satar and Akcan (2018) consists of three categories of social presence, namely, affective, cohesive and interactive, and each of these categories has a set of indicators. The affective category includes emotional indicators, the cohesive category includes use of inclusive pronouns and intersubjectivity, and the interactive category includes asking questions, expressing agreement and disagreement and referring to other participants’ posts. Table 11 shows the indicators for each social presence category, together with a definition and examples from Satar and Akcan (2018) followed by examples taken from the present research corpus.

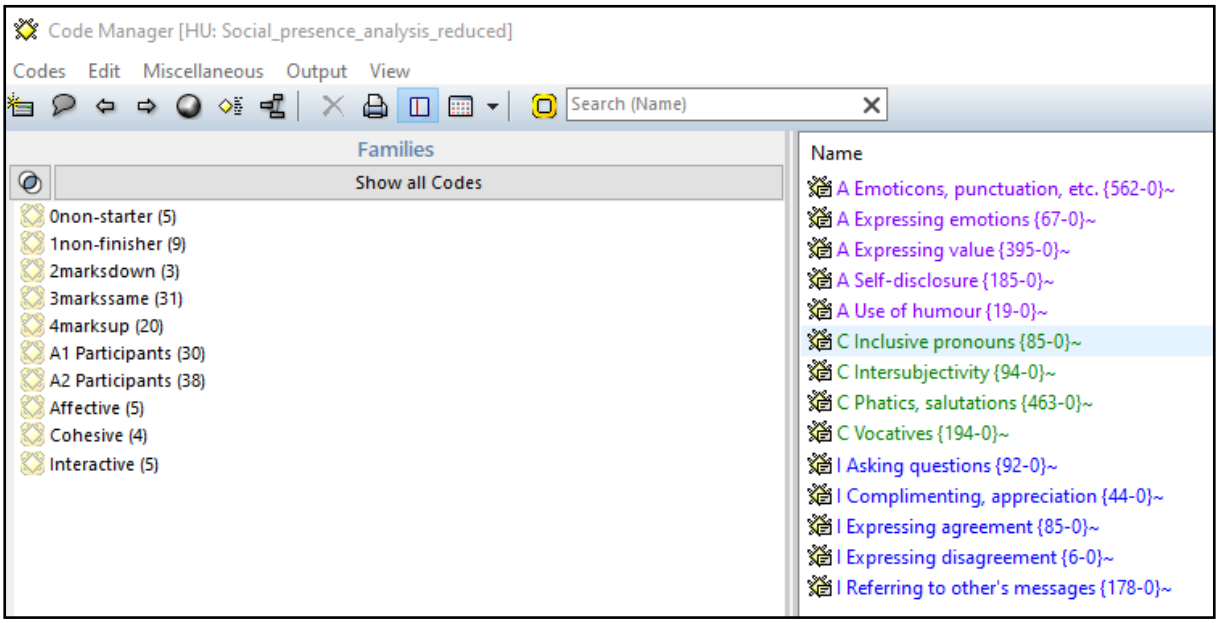
Table 10. Social presence categories and indicators, adapted from Satar and Akcan (2018)

Social Presence categories	Indicators	Definition	Examples	Example from present research data
Affective	**Expressing emotions**	Conventional expressions of emotion	Therefore, I am happy to be a part of it. // It is definitely exciting to read how people label themselves …	I am looking forward to reading your first contributions here in our Warm-up Activity! // I'm excited!!
	Use of humor	Teasing, cajoling, irony, sarcasm, understatements	I could have used a 'like' button here;)	I have to tell you that if you have two teenagers I'm sure you are playing extreme sports every day :-)
	Self-disclosure	Presents details of life outside of class, or expresses vulnerability; includes expressions of likes, dislikes and preferences	First of all, it is another good opportunity for such a non-technologic person as me to experience web-based sharing platform	I apologize for my late presentation. I have had family problems... // I do also play the piano! I studied at Liceo for a few years but I take it as a hobby now.
	Emoticons, punctuation, etc.	Unconventional expressions of emotion: repetitious punctuation, conspicuous capitalization, emoticons	Otherwise, it does not go further beyond just doing homeworks, unfortunately. =/ // That is a VERY important thing	Welcome to the classroom forum :) // Love music, comics and books too. I love them so much XD
	Expressing value	Expressing personal values, beliefs and attitudes	I find a profile is useful to express my ideas, but I like limitations blocking to share all my personality.	I tihnk you might be the student who is connecting to the classroom from furthest away! // my grammar is quite simple, but I'm not afraid to speak.
Cohesive	**Vocatives**	Addressing by name	I am also from Mersin like Ayse :)	Hi Cristina, Me too!! I love sports!! // Welcome to the course Marta
	Inclusive pronouns	Addresses the group as we, us, our, group	Hi my dear friends, our dear instructor and our coordinating instructors,	Hi everybody // Hi classmates // Hi mates!
	Phatics, salutations	Communication that serves a purely social function; greetings or closures	Hey! // See you guys!	Hi everybody // Best wishes // See you!
	Inter-subjectivity	Finding common ground by emphasizing similarities	I do like this one a lot too. // And I seem to be like you, for example, I can remember what a webpage looked like more than the name of the page.	What a coincidence! // We both love travelling // I live in Alicante too.

Social Presence categories	Indicators	Definition	Examples	Example from present research data
Interactive	**Referring to other's messages**	Direct references to contents of others' posts	Most of my friends have written about the drawback of profiles // This is a really nice idea	I just read that a colleague had also lived in London, so now I have something in common with someone. // Nice to meet you and your cat Zeus!
	Asking questions	Asking questions to other participants	What about turning on or off lights? I generally do not do it but have you tried it?	Where do you work? // What about you?? // What is it like living there?
	Complimenting / appreciation	Complimenting others or contents of others' messages	Thank you for the videos, I'll also watch them :) // Thanks aylin these are very useful tips :))	Thanks for writing! // Thanks for sharing // Thanks for the response!!
	Expressing agreement	Expressing agreement with others or contents of others' messages	I agree with you, the student focuses more on giving points than on the lesson in your case. // Exactly! ;)	Me too!!
	Expressing disagreement	Expressing disagreement with others or contents of others' messages	I completely agree about punishment issue but for rewards and praise I think they work in classrooms. // But, I still think that writing a story on pen and paper is not that boring.	But I don't agree with your second statement.

While Atlas.ti is often used to operate with codes that emerge from the data, it can also be used for applying a code set *a priori*, as in the present study. A practical function in this software is the possibility of creating code 'families', which involves joining groups of codes together. In this sense, code families were created for the three main categories of social presence: affective, cohesive and interactive and we gave them different colours to make them easier to visualise. Further use of the code families was made by creating a code family for each of the marks progression groups so that each individual learner was also categorised by their marks progression group family code. The learners were then added to their respective MPG code family. Figure 20 shows the code families on the left and on the right, the social presence codes are shown with their respective colours.

Figure 20. Screenshot of code families in Atlas.ti



4.3.2.2.4 Preparing the forum post data for their analysis.

The process of categorising data with codes is an analytical procedure in which researchers need to reflect on how to harmonize the theoretical background chosen for their study with the theoretical goals of their work. Before turning to section 4.4, where we justify the decisions taken in the process of analysing the data in our three case studies, we need to define this pre-analysis that took place during the categorisation and codification of data. First, we will briefly review how discussion forums have been studied for more than two decades. Then we will account for the decisions taken to determine the unit of analysis in our study.

How discussion forums have been analysed

In the studies we reviewed in chapter 3, which take their data from discussion forums, we could observe that researchers' decisions on how to approach data varied according to their research goals. Broadly speaking, we could distinguish three trends. Firstly, a group of studies revealed that in order to guarantee participation, task instructions and evaluation criteria need to be made clear to learners so they know what is expected of them. They also demonstrated that the role of the teacher is crucial both in terms of providing a model for learners to follow, but also in terms of helping to create and maintain a community of inquiry in which learners can develop their communication skills. These studies used various quantitative measures of participation which turned out to be helpful in establishing how participants behave in forums.

Secondly, another group of studies revealed that understanding the type of interaction that takes place in forum discussions can unveil relationships between participants. In this case, procedures

such as mapping threading characteristics and social network analysis was useful to understand the structure of discussion forums, specially of subject-specific forum discussions in which learners can express themselves freely, unhindered by linguistic limitations which may exist in language learning forums.

Thirdly, early on in the use of computer conferencing for education, Henri (1992) points out the importance of analysing the quality of posts for carrying out content analysis. In this sense, the author argues that research into computer conferencing content prior to that point had generally been limited to collecting and analysing participation data, with the result being that quantitative data of posts was the measure used to evaluate how efficient, successful and fruitful interactions were. The results of such analyses had proved that computer conferencing was as efficient as traditional education and therefore, qualitative approaches were required to understand the advantages of interaction taking place in CMC.

In the context of our research into learner engagement, which aims to consider behavioural, emotional and cognitive engagement, forum data needs to be analysed in ways which can show how participants behave, express emotions and demonstrate learning because, as Masats and Unamuno (2001) point out,:

> learning takes place through the course of interaction, not only because learners generate language input and output, but also because the fact of using a language code they have not yet mastered forces them to reflect upon language form and use to maintain the flow of conversation. (Masats and Unamuno, 2001, p. 241)

This study adopts a mixed methods approach of content analysis and quantitative analysis, which in the context of the study, a fully online English as a foreign language course, is the most practical approach. Content analysis plays an essential role in our exploration of emotional engagement taking place in the forum discussions and we use this method to analyse social presence. Content analysis is a qualitative research approach used in distance learning contexts to analyse discussion forum transcripts systematically in order to convert qualitative data into quantitative data which can then be analysed and described. This method has been used by many researchers investigating social presence (Rourke et al., 1999; de Bruyn, 2004; Beuchot and Bullen, 2005; Rovai, 2007; Kehrwald, 2008; An, Shin and Lim, 2009; Shea and Bidjerano, 2010; Mok, 2013; Satar and Akcan, 2018). In addition to content analysis, we use quantitative analysis to prepare descriptive statistical analyses of our measurements for behavioural engagement and cognitive engagement. A key issue when carrying out content analysis of discussion forum transcripts is to choose the most appropriate

unit of analysis. In the next section, we examine the units of analysis which have been used in previous research and explain how we determined the unit of analysis for our study.

How to determine the unit of analysis

In the previous section we referred to Henri (1992) as the researcher who first points out the need to use qualitative methods to analyse the content of discussion forum transcripts. In her study she reports on earlier attempts to use qualitative methods, such as the impact particular posts had on interaction patterns and the structure of discussions. Henri posits that what is needed is to focus on how participants express themselves, in order to unveil the social, psychological and cognitive aspects of interaction. In this sense, Henri proposes a framework and analytical model for educators to use to gain a deeper understanding of the learning process taking place in computer mediated communication. Henri's approach to content analysis is useful, in that it centres on the social and interactive aspects of individuals working together online. Henri proposes that posts should be divided up into thematic units on the grounds that CMC posts can carry more than one unit of meaning. She therefore "divided the messages into as many statements as there were units of meaning" (Henri, 1992, p. 134). However, her method has been criticised by de Wever et al. (2006) and Gunawardena, Lowe and Anderson (1997), who point out that Henri fails to provide empirical test results in terms of reliability, thereby weakening Henri's argument for adopting themes as the unit of analysis in her study. The issue of which unit of analysis to use in content analysis is discussed in detail by Rourke et al. (2001), who report that researchers up to that point had opted for either message, theme, proposition, sentence, paragraph, illocutionary act or a combination of theme and post. For Rourke et al. (2001), the unit of analysis must be objective, reliable and as a result, replicable. In this sense, Marra (2006, p. 248) defines content analysis as "any process that is a systematic, "replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding" (Krippendorff, 1980; Stemler, 2001)." Rourke et al. (1999) explain that while syntactic units such as sentences or paragraphs can be reliably identified, they are not logical units in terms of the indicators applied during coding. On the other hand, while Rourke et al. (1999) agree with the logical relationship thematic units have with indicators, they contest the replicability of this method and propose validating thematic unit coding through inter-rater reliability analysis, which involves at least two coders carrying out the analysis of a portion of the corpus or the corpus in its entirety. More recently, Satar and Akcan (2018, p. 163) find that thematic units provide "flexibility to code a single discussion entry for more than one category where needed". In our research, we adopt this approach and as the primary researcher is a doctoral candidate, a portion of the corpus was coded in conjunction with one of the doctoral supervisors as a way to check the validity of our coding.

Having confirmed our unit of analysis, we proceeded to code our data. Figure 21 shows an example of a post coded in Atlas.ti. The highlighted phrase “I’ve just seen these messages.” was coded as corresponding to one of the Interactive social presence indicators, “Referring to other’s messages”. As the post label 1wu030201 indicates, this post comes from the warm-up task in classroom 1. Figure 21 shows and augmented screenshot of the coding section of this post.

Figure 21. Example of coded post in Atlas.ti

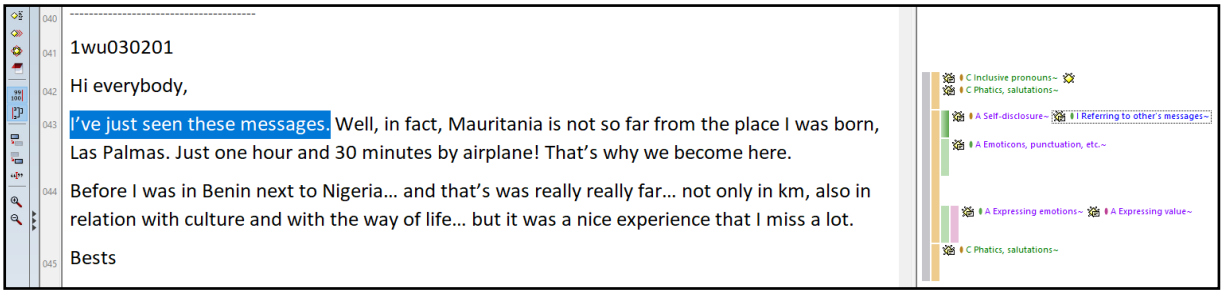


Figure 22 shows and augmented screenshot of the coding section of this post. When the code “Referring to other’s messages” is selected, the corresponding text in the corpus is highlighted.

Figure 22. Augmented screenshot of the coding section in Figure 21

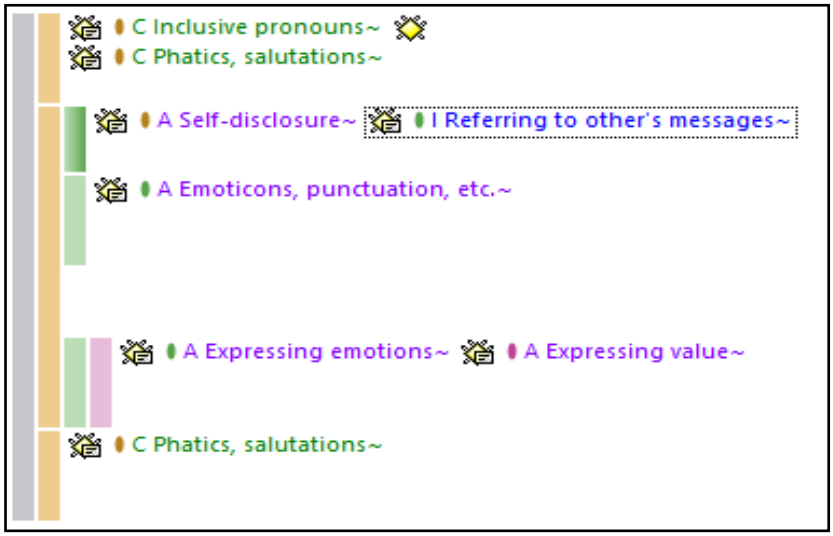


Figure 23 shows an example of our analysis for social presence for the post shown above in Figure 21 and 22.

Figure 23. Example of coded post

Post: 1wu030201		Affective	Cohesive	Interactive
L35 L36 L37 L38 L39 L40 L41 L42 L43 L44 L45 L46	Hi everybody, I've just seen these messages. Well, in fact, Mauritania is not so far from the place I was born, Las Palmas. Just one hour and 30 minutes by airplane! That's why we become here. Before I was in Benin next to Nigeria... and that's was really really far... not only in km, also in relation with the culture and with the way of life... but it was a nice experience that I miss a lot. Bests	**Self-disclosure:** the place I was born, Las Palmas. // That's why we become here. // Before I was in Benin // but it was a nice experience // that I miss a lot. **Expressing value:** that's was really really far // it was a nice experience **Expressing emotions:** I miss a lot **Emoticons, punctuation:** !	**Phatics, salutations:** Hi everybody // Bests **Inclusive pronouns:** everybody	**Referring to other's messages:** I've just seen these messages.

As shown in Figure 23, the colour-code system is used throughout this thesis with affective social presence indicated in purple, cohesive social presence in green and interactive social presence in blue. Examples of individual instances of each type of social presence are separated by two forward slashes (//).

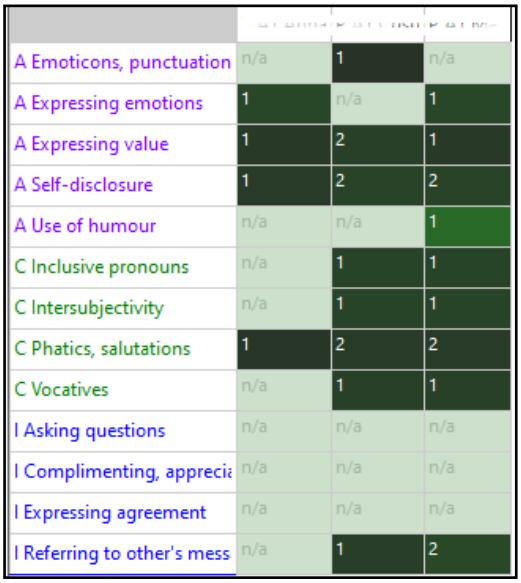
When we report on and discuss the results in chapters 5, 6, and 7, we present examples from forum data using the colour-coding system and format used above in Figure 23. In chapter 7 where we focus on the language development of the three learners, when we present examples from the data and comment on these, we highlight particular phrases using bold. In chapters 5, 6 and 7, for all examples presented from the forum data, posts are reproduced as they were written by the learners.

4.3.2.2.5 Creating collections.

After having coded our forum data to outline instances of social presence, the results were then collected in various ways so that the numerical results could be analysed using the software SPSS, a statistics software package which can be used for analysing quantitative data. We collected results for individual learners, for marks progression groups and for each of the tasks from Atlas.ti. In order to do this, two separate Atlas.ti projects were created, one for each case study. One project contained the primary documents for both classrooms for the warm-up (case study one), and the other project contained the primary documents for the three tasks for classroom 1 (case study 2). This was to ensure that when the results were collected, they would only include the coding instances relative to the particular case study being analysed. The Atlas.ti code co-occurrence table

function was used to collect instances of codes for each indicator. Figure 24 shows an example with the results from three learners (case study 3). This data can be exported into an Excel file in which the totals for each category of social presence for individual learners can be collated and transferred to SPSS for further statistical analysis.

Figure 24. Screenshot of a co-occurrence table in Atlas.ti



A Emoticons, punctuation	n/a	1	n/a
A Expressing emotions	1	n/a	1
A Expressing value	1	2	1
A Self-disclosure	1	2	2
A Use of humour	n/a	n/a	1
C Inclusive pronouns	n/a	1	1
C Intersubjectivity	n/a	1	1
C Phatics, salutations	1	2	2
C Vocatives	n/a	1	1
I Asking questions	n/a	n/a	n/a
I Complimenting, appreci	n/a	n/a	n/a
I Expressing agreement	n/a	n/a	n/a
I Referring to other's mess	n/a	1	2

The question of what exactly to count for analysis of social presence needs to be explained further at this point. In previous studies, calculation methods differed among researchers. For example Rourke et al. (2001) and Satar and Akcan (2018) measure what they refer to as social presence density by calculating the total instances of social presence in the forum transcripts and then dividing this total by the number of words and finally multiplying the result by a thousand. They argue that the results are clearer this way because with the multiplier, the numbers are too small to discern differences. On the other hand, Whiteside (2007) chooses to calculate a "social presence density index" and simply divides the number of words per participant by the number of instances of social presence, arguing that this minimises the possibility of human error. In the present study, in order to be consistent with the coding set we use, that of Satar and Akcan (2018), we also adopt their approach to calculating social presence density. Therefore we calculate social presence density by taking the total number of words per participant, dividing these by the raw figures for instances of social presence per participant and multiplying by a thousand. The teacher is included in the social presence density calculations for the whole classroom, but, when breakdowns for marks progression groups are presented, the teacher is not included.

4.4 Data Analysis

As we have been reporting, learner engagement is generally agreed to be comprised of three dimensions: behavioural, emotional and cognitive engagement (Fredricks, Blumenfeld and Paris, 2004; Trowler, 2010). In Trowler's (2010) review of studies discussed in chapter 3, she proposes that each dimension of engagement can be measured in terms of positive engagement, non-engagement and negative engagement as displayed in Table 11.

Table 11. Examples of positive and negative engagement (Trowler, 2010, p. 5)

	Positive engagement	Non-engagement	Negative engagement
Behavioural	Attends lectures, participates with enthusiasm	Skips lectures without excuses	Boycotts, pickets or disrupts lectures
Emotional	Interest	Boredom	Rejection
Cognitive	Meets or exceeds assignment requirements	Assignments late, rushed or absent	Redefines parameters for assignments

While Trowler's review is helpful for the context of this study because it focuses on higher education, it only deals with online contexts in passing, with a brief mention of virtual learning environments and how these can be incorporated into learning and teacher strategies. Table 12 shows equivalent examples for online contexts and the examples provided illustrate observable aspects of the different dimensions of learner engagement.

Table 12. Examples of positive and negative engagement in online language learning

	Positive engagement	Non-engagement	Negative engagement
Behavioural	**Posts and reads actively and regularly**, and with enthusiasm within the established period scheduled for the activity.	Doesn't take part in assignment	Posts erratically and disturbs other participants by responding outside the established period scheduled for the activity.
Emotional	Uses **language to express high levels of social presence**	Posts minimally, spends minimal or no time on task, shows minimal or no social presence	Refuses to post, posts to other participants with rude or aggressive tone/words
Cognitive	Shows evidence of learning in **quality of language**	Assignments late, rushed or absent	Redefines parameters for assignments

The model shown in Table 12 is our starting point for identifying what is observable in an online learning context, but what is actually observable is dependent on the specific context. For example,

in the course where the data for the present study comes from, if learners do not take part in an assessed assignment (indicating non-engagement for the behavioural dimension), they are not fulfilling one of the pre-requisites for passing the course. As outlined above, Trowler (2010) reminds us that positive behavioural engagement does not necessarily mean learners are fully engaged. Learners may either appear to be going through the motions and high levels of participation may not be a sign that they are completely engaged in the learning process, or conversely, learners with low levels of behavioural engagement may appear to be disengaged, when in fact they may still be engaged. This is the rationale for studying all three dimensions of engagement: so that a more complete picture of learner engagement can be obtained. The challenge for our study was to identify what could be observed in the context where the study takes place which was relevant for the three dimensions of engagement: behavioural, emotional and cognitive. We now describe how we will analyse each dimension.

Firstly, we will study behavioural engagement through observing **participation** and **interaction** of the learners and the teacher in asynchronous discussion forums, working on three tasks in two classrooms. In a virtual learning context, active participation entails connecting to the classroom regularly and posting and reading other participants' posts. Many studies into online course success measure participation together with other factors such as quality or types of collaboration taking place in forum discussions (see for example, Dennen, 2005; Hew and Cheung, 2008; Lopez, Luna, Romera and Ventura, 2012; Mazzolini and Maddison, 2003; Nandi, Hamilton and Harland, 2012; Sing and Khine, 2006; and Zhao and Kuh, 2004). As Shea and Bidjerano (2009, p. 591) warn, "reflective learning and co-construction of knowledge are not an inevitable consequence of allowing students to interact with each other". They go on to suggest that focusing only on patterns of participation may lead to a regression to the traditional initiation-response-evaluation paradigm in teaching (see section 3.1.3) and place less emphasis on student-to-student interaction. Within the sociocultural approach to language learning, whereby language learning is "the progressive movement from external, socially mediated activity to internal meditational control by individual learners" (Johnson, 2006, p. 236), for learning to occur learners need to maximise their contact with other participants and have plenty of opportunities to communicate in the target language. Higher levels of participation would indicate that at least these conditions for learning existed. However, as outlined above, Trowler (2010) reminds us that positive behavioural engagement does not necessarily mean learners are fully engaged and high levels of participation may not be a sign that they are fully engaged in the learning process and similarly low levels of participation might not be a true reflection of learners' engagement. With this caveat in mind, we will observe behavioural engagement in terms of participant activity, through how much they post and read each others'

posts in the forum, and also by looking for evidence of interaction, by replying to and building on posts from others.

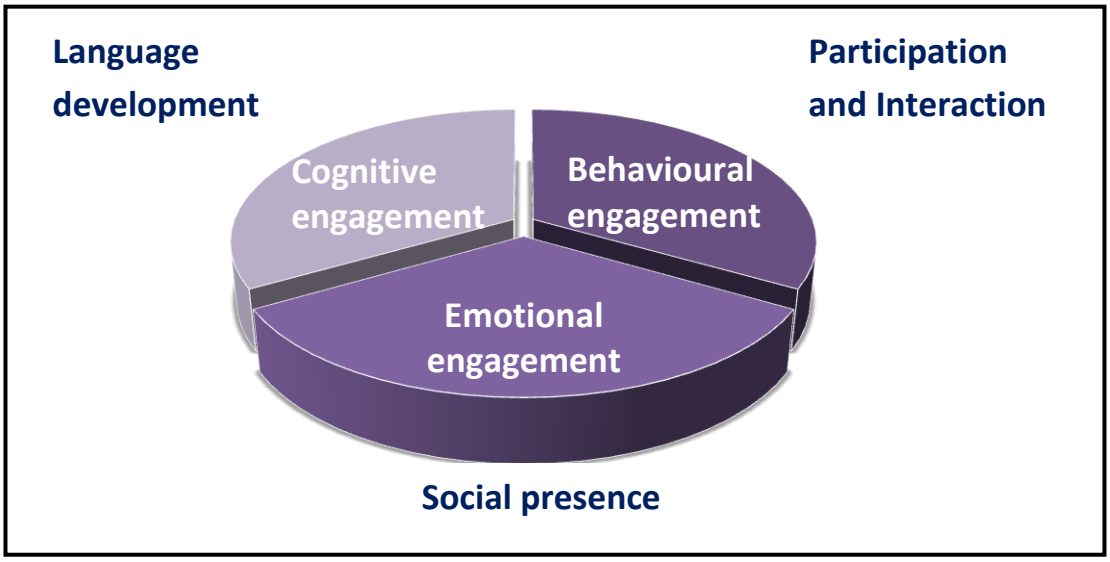
Secondly, we will study emotional engagement by exploring **social presence**, one of the key indicators in the literature for successful distance, but particularly online learning contexts. While previous studies of emotional engagement have focused on learners' perspectives of their own emotional engagement through questionnaires (Dixson, 2010; Young and Bruce, 2011) or teachers' opinions of their learners' emotional engagement (Dao et al., 2019), we sought a way to observe emotional engagement occurring in interactions during tasks carried out in the forum. Given that social presence relates to how participants project themselves as real people in virtual contexts, it would seem to be an appropriate way to tap into participants' emotional connection with each other. Social presence is broadly broken down into three main areas: affective, cohesive and interactive. Full details of the indicators for social presence used in the present study are provided in Table 10. The theoretical background of social presence is provided in chapter 3 (see section 3.3), but it essentially stems from research by Short, Williams and Christie (1976) who explored the potentially negative impact of mediated communication on interpersonal communication, leading them to them coin the term social presence. In an asynchronous computer-mediated communication context, participants need to show social presence in order to connect with each other and foster a sense of community. With this in mind, we will analyse our forum posts for the amount of social presence and also explore how much of the three types of social presence participants use as a way to unveil how emotionally involved they are with the tasks and each other.

Finally, cognitive engagement is a challenging dimension for research in language learning contexts because it is closely related to the subject matter of the courses being analysed. Forum discussions can be investigated for depth of discussion in courses with subject matter other than language learning. However, when language learning is the aim of the course, and therefore learners' language competence is limited, other ways of measuring cognitive engagement are necessary. To this end, we will study cognitive engagement by observing learners' **language development**. The proficiency levels learners have before the start the course vary but our hypothesis is that if students are positively engaged with the course, it is hoped that they should at the least maintain, if not improve, their levels over the course and that should be reflected in how their marks change from the first assessed task to the last assessed task. If the two tasks are similar, as the two assessed tasks are in this study, comparing learners' marks progressions between these two tasks may be a helpful way to group learners in terms of how cognitively engaged they are. Therefore, learners' marks progressions over the course are analysed as a way of measuring students' language development

and of identifying groups of learners whose marks changed in different ways. In this sense, Alzahrani (2017) investigates the relationship between participation in discussion forums and final course marks, and finds a positive correlation between the two. However, in the present research, the focus is on how learners' marks changed over the course, with the aim of identifying a relationship between learners' language development as a measure of cognitive engagement and their behavioural and emotional engagement over the course. Details about the composition of the marks progressions groups were given in section 4.3.2.1.

In case study 3, language development is analysed in greater depth by studying the writing of three learners over the course in more detail: in terms of complexity, accuracy and fluency (CAF analysis). In this way, it is hoped that further evidence of different degrees of language development by learners in the different marks progression groups will be found. Figure 25 shows the observable aspects we focus on for each dimension of learner engagement.

Figure 25. Observing dimensions of learner engagement in online language learning



Before we account for how we measure these dimensions in each of our case study, we briefly summarise their objectives.

- Case study 1. In this case we analyse participant posts in a discussion forum for the same unassessed written warm-up task carried out at the start of the course by two separate groups of learners working in two separate online classrooms with the same teacher (*n=75)*. In this way, we examine how the two groups of learners and their teacher carry out the task through their interaction together. Learners are all given the same instructions and by examining what they do with the task, in terms of task-in-process, we will be able to

measure their engagement with the task and with each other to help us understand the learning processes taking place.

- Case study 2. In this case we focus on the forum posts for three tasks which take place over the course by one of the groups in case study 1: the warm-up task which takes places in the first week of the course, the first assessed writing task which takes place in week 2, and the final assessed writing task which takes place in week 13 of the course. One of the two original groups of learners plus their teacher is selected (*n=35*) for this second case.
- Case study 3. In this case we analyse in more detail the posts of three learners in classroom 1, one from each of the three marks progressions groups who completed the course. In addition to examining how they realise the tasks in terms of behavioural and emotional engagement, we will also focus on their language development by measuring how language complexity, accuracy and fluency in their task contributions change over the course.

In case study 1 and case study 2 we examine behavioural engagement using measures of participation and interaction, such as the number of posts, the number of words, and details of how often participants read others' posts. We measure interaction looking at how many posts participants received, and examining threading characteristics such as thread depth and length. To study emotional engagement, we analyse the posts looking for evidence of social presence. We also observe if we can find instances of affective, cohesive and interactive social presence. Finally, cognitive engagement is evaluated by grouping the learners accordingly to the progression of their marks progressions over the course, from the first assessed task to the final assessed writing task. In case study 3, we look at three learners in more detail, considering the measurements for behavioural and emotional engagement outlined above but for cognitive engagement, we analyse their posts in terms of complexity, accuracy and fluency, as a way of measuring their language development over the course. This information is summarised in Table 13.

Table 13. Overview of analysis in the three case studies

Case study	Participants	Task(s)	Data analysed for cognitive (CE) behavioural (BE) and emotional (EE) engagement	Type of analysis
Case study 1. Learner engagement in a warm-up task in two classrooms	73 learners divided between two classrooms (classroom 1 and classroom 2) plus 1 teacher in each	1 task (warm-up)	CE: Learners marks progressions	Quantitative analysis (descriptive): comparison between classrooms
			BE: Participation (#posts; #words; timing; proportion of post-read dates), interaction (#posts received; #interactions; threading characteristics; different participants)	Quantitative analysis (descriptive): comparison between classrooms (including teacher) and MPGs
			EE: Social presence density; cohesive, affective and interactive social presence (raw); proportion of affective, cohesive and interactive social presence	Content analysis of forum posts →Quantitative analysis (descriptive): comparison between classrooms and MPGs
Case study 2. Learner engagement across three tasks	34 learners plus 1 teacher from classroom 1	3 tasks (warm-up, first and last assessed writing)	CE: Learners marks progressions	Quantitative analysis (descriptive): comparison between tasks
			BE: Participation (#posts; #words; timing; proportion of post-read dates), interaction (#posts received; #interactions; threading characteristics; different participants)	Quantitative analysis (descriptive): comparison between tasks and MPGs
			EE: Social presence density; cohesive, affective and interactive social presence (raw); proportion of affective, cohesive and interactive social presence	Content analysis of forum posts →Quantitative analysis (descriptive): comparison between tasks and between tasks and MPGs
Case study 3. Alicia, Carolina and Iris	3 learners from classroom 1	3 tasks (warm-up, first and last assessed writing)	CE: CAF analysis of posts	Quantitative analysis (descriptive): comparison of language development between 3 learners
			BE: participation (#posts; #words; timing; proportion of post-read dates), interaction (#posts received; #interactions; threading; different participants)	Quantitative analysis (descriptive): comparison between 3 learners
			EE: Social presence density; cohesive, affective and interactive social presence (raw); proportion of affective, cohesive and interactive social presence	Content analysis of forum posts →Quantitative analysis (descriptive): comparison between 3 learners

We will now briefly describe the information in column 4, that is, how we analyse cognitive engagement (CE) behavioural (BE) and emotional (EE) in our 3 case studies.

4.4.1 Measuring cognitive engagement.

In case study 1 and 2 cognitive engagement is measured by tracking how learners' marks change from the first to the final assessed writing task and then grouping learners accordingly into marks progression groups, or MPGs (see section 4.3.2.1). In case study 1, we explore differences in the composition of the groups between the two classrooms and subsequently examine the measures for the other two dimensions of engagement according to the MPGs. We anticipate that learners whose writing marks either remain the same or improve over the course may show higher levels of behavioural and emotional engagement. In our analysis of cognitive engagement in case study 1, we include those learners who take part in the warm-up task but who later submit no work at all and those who submit only some of the course work and subsequently drop out. In this way we hope to understand more about these learners and whether their behavioural and emotional engagement is discernibly different from learners who complete the course. In case study 2, which looks at one of the classrooms from case study 1, and their forum contributions for three tasks across the course, we explore the relationship between how learners' marks changed and their behavioural and emotional engagement for each task. We hope to understand how different levels of the three dimensions of engagement are related over the course.

In case study 3 the aim was to look more closely at the language development of three learners; one from the three marks groups that completed the course: marks-down, marks-same and marks-up. The B2.1 course has a transparent policy for assessment and so the marking criteria are published in the classrooms for learners to refer to. Each piece of work is given a mark from N (no work submitted), D, C- (fail marks), C+, B and A (pass marks). The marking criteria are used by teachers to assess learners in a standardised way and each year, teachers carry out a marking standardisation activity to ensure that marking is uniform by the different teachers on the course. For case study 1 and 2, the marks awarded by the teacher were used to group learners into marks progression groups. However, our aim was to look more closely at how language development occurred and to do this, an overall mark for the work was not fine-tuned enough. We therefore looked for a suitable instrument of analysis to use, that is CAF (complexity, accuracy and fluency) analysis.

The three learners' posts for the three tasks were filtered out and then analysed in terms of their complexity, accuracy and fluency. This type of analysis has been widely used by researchers such as Larsen-Freeman (2006), Norris and Ortega (2009), Pallotti (2009), Ruiz-Funes (2015) and Nosratinia and Razavi (2016) for writing and oral production to evaluate linguistic development of learners. The

first stage of analysis involves separating texts out into "t-units", which are defined as "one main clause with all subordinate clauses attached to it" (Hunt, 1965, p. 20). Once the texts are divided into t-units, the following calculations were made:

- Grammatical complexity: the average number of clauses per t-unit.
- Vocabulary complexity: the number of different word types divided by the square root of two times the word count
- Accuracy: the number of error-free t-units divided by the total number of t-units.
- Fluency: the average number of words per t-unit.

Figure 26 shows an example of how CAF analysis was carried out on a post from the warm-up.

Figure 26. Example of CAF analysis

Post

We have an important thing in common. We both love traveling. I think is interesting discovering the fascinating different cultures of the places we visit because permits us know the routine.
I have visited New York last Christmas holidays and I would like to visit other countries of USA because I really like his modern life. See you in the classroom!!

Number of words = 61

t-units = 6

- We have an important thing in common.
- We both love traveling.
- I think is interesting discovering the fascinating different cultures of the places we visit because permits us know the routine.
- I have visited New York last Christmas holidays
- and I would like to visit other countries of USA because I really like his modern life.
- See you in the classroom!!

Error-free t-units = 3

- We have an important thing in common.
- We both love traveling.
- See you in the classroom!!

Clauses = 9

- We have an important thing in common.
- We both love traveling.
- I think
- is interesting discovering the fascinating different cultures of the places we visit
- because permits us know the routine.
- I have visited New York last Christmas holidays
- and I would like to visit other countries of USA
- because I really like his modern life.
- See you in the classroom!!

	Calculation	Result
Grammatical complexity (clauses / t-units)	9/6	1.5
Vocabulary complexity (word types / square root of 2* word count)	47/11.05	4.25
Accuracy (error-free t-units / t-units)	3/6	0.5
Fluency (word count / t-units	61/6	10.17

In the present study, CAF analysis is carried out on all of the posts for the three tasks of the three learners as a way to identify any evidence of language development, bearing in mind that their marks progressed in different ways from the start to the end of the course. This will also make it possible to identify any differences the learners show in their main essay contributions and their responses to classmates in the forum.

The CAF analysis results for the learners will be presented and discussed in two ways. Firstly, they will be presented in terms of interindividual variation over time, which means examining differences between the trajectories of three learners' forum posts in terms of complexity, accuracy and fluency over the three tasks. For each of the dimensions analysed, we will be able to observe how their forum posts compared against other posts, but also against each other. Secondly, the results will be presented in terms of intraindividual variation. This requires converting the performance measures to z-scores, a numerical measurement used in statistics which relates one particular value to the mean of a group of values, and provides us with measurements which be compared directly with each other. In this way, we will be able to present the results for the four measures of the CAF analysis together for each of the learners. Given that the nature of writing in main contributions and responses to main contributions is likely to be quite different, but also given that the learners posted in varying amounts for the three tasks, intraindividual variation will be presented for the learners' main contributions only.

As Larsen-Freeman (2006) points out, language acquisition is a complex, dynamic process and progress does not occur in a linear fashion. Because of this, CAF analysis of learner texts is likely to show significant intraindividual and interindividual differences between individual learners as learners' manage limited linguistic resources. For example, learners may increase their level of complexity but this may lead to a decrease in accuracy, or vice versa. We hope to be able to identify the relationship between the CAF analysis results and the learners' marks progressions.

4.4.2 Measuring behavioural engagement.

In case study 1 and 2 participation and interaction in the tasks in the course are used as indicators of behavioural engagement. When comparisons are provided between groups (case study 1) / tasks (case study 2) and forum participants, both learners and their teacher are included in the analysis; when comparisons are provided between marks progression groups, only learners are included. In both cases, our analysis measures the following:

- Number of posts: mean number of posts to the discussion forum.
- Number of words: mean number of words.
- Main contributions and reply posting dates: when participants posted main contributions and replies.
- Proportion of post read dates: proportion of different dates participants read posts in relation to the total number of possible different dates taking into account the real duration of the tasks.
- Number of posts received: mean number of posts received in the discussion forum.
- Number of interactions: mean number of posts sent plus posts received in the discussion forum.
- Threading characteristics: depth of threading calculated by total number of posts/total number of discussion threads.
- Number of different recipients: number of different participants replied to.

With regards to measuring the proportion of post read dates in case study 1, as the warm-up task is an optional non-assessed task, its duration is not fixed and can vary between the two classrooms. We therefore checked how long the task lasted in each classroom and we subsequently calculated the proportion of different dates learners read posts against the total possible dates the task lasted for each classroom. For classroom 1, this meant that the total number of post read dates included was 10 days (21/09 – 30/09). For classroom 2, the total number of post read dates included was 14 days (21/09 – 04/10). As the warm-up task lasted slightly longer in classroom 2 than in classroom 1, a straight comparison of the mean number of post read dates would not have been an equal comparison between participants in the two classrooms. Secondly, another methodological issue for this calculation is that in the previous measures for posts and word counts, in order to avoid skewing the results with learners who did not actively participate, only learners who had posted at least once were included. As the posts-read indicator attempts to reveal any less visible, or more passive participation we adjusted the results filter to count all participants who read at least one post. This measure is relevant because, the forums in the virtual classrooms in the context of this study have a "read all" button. If a user clicks on this for all new messages each time they access the forum, they

may not actually be reading all of the posts, but simply clearing their forum of unread posts. In this sense, a higher number of different read dates may be a better indication of learners connecting to the forum and reading classmates' posts than counting the number of posts read.

In case study 2, we analyse the proportion of post read dates for the three tasks in classroom 1. As in case study 1, we consider proportions of posts read dates because each task lasts for a different length of time (see Table 4) but proportions can show how closely participants are following the activity in the forum. In case study 3, we analyse the measurements for behavioural engagement for three learners with the average measures for the classroom for each task. In addition to analysing the proportion of post read dates for the three learners between each other and the class average, we also analyse when they post and read posts for the three tasks. In this way, we hope to identify any differences in their behavioural engagement in the three tasks among these three learners and also compared with the class averages for each task.

4.4.3 Measuring emotional engagement.

In our study emotional engagement was analysed in terms of the following measures:

- Social presence density: comparison of social presence density between classrooms and marks progression groups. As we explained in section 4.3.2.2.3, we calculated social presence density following the methodology used by Satar and Akcan (2018). We counted the total number of instances of social presence, divided this by the number of words and then multiplied this by a thousand. Here is an example of this calculation for the learner who posted 1wu030201, illustrated in section 4.3.2.2.4.

  Total instances social presence in the warm-up = 30
  Total number of words posted in the warm-up = 410
  Social presence density in the warm-up: 30/410 * 1000 = **73.17**

- Cohesive social presence: raw number of instances of cohesive social presence.
- Affective social presence: raw number of instances of affective social presence.
- Interactive social presence: raw number of instances of interactive social presence.

In case study 1, these raw numbers are used to prepare comparisons of proportions of the different types of social presence between the two classrooms and between the marks progression groups. In case study 2, they provide proportions of the different types of social presence in each task so that we can consider how the different types of social presence change between the unassessed task and the two assessed tasks. This will also allow us to consider how the different types of social presence used by learners all together but also in the different marks progression groups over time. In

previous studies by Swan (2001, 2002) and Satar and Akcan (2018), it has been seen that as courses progress, levels of affective, cohesive and interactive social presence change. In Swan (2002), for example, cohesive indicators decline while interactive indicators go up; on the other hand, affective indicators remain constant, "suggesting that the maintenance of affective presence was integral to the maintenance of social presence" (Swan, 2002, p. 43). In case study 3, we explore the degree of social presence among the three learners and also compare their results with the average for the rest of the class. We also explore differences in the amount and types of social presence the three learners express in the three tasks in order to see if there are any differences which may be related to their language development.

In chapters 5, 6 and 7 we present the analyses for the three case studies and discuss the principal findings for each case at the end of each chapter. Finally, in chapter 8, we consider what our analyses have contributed to our understanding of learner engagement in asynchronous discussion forums used for language learning.

Chapter 5 Case study 1: Learner Engagement in a Warm-up Task in Two Classrooms

In this chapter, the findings from case study 1 are presented and discussed. The overall objective of this case study is to identify differences between how two separate groups of learners with the same teacher carry out a warm-up task in their classroom asynchronous discussion forums. We do this by analysing learners' observed behavioural and emotional engagement and relating this to our measurements of cognitive engagement (how learners' marks progressed over the course). The first phase of analysis consists in grouping the learners according to how their marks changed over the course between the first assessed writing task and the final assessed writing task, both of which are done individually and also take place in the asynchronous discussion forum.

In this case, two groups of learners are working on a written warm-up task "What do we have in common?", the details of which are given in chapter 4. The task is not assessed and is in effect optional, but highly recommended for learners. In terms of task-as-workplan (Breen, 1987), according to the task instructions we may expect learners to post three times: an initial post containing a short description of themselves, two responses to other students with which they have something in common and then possibly more responses to students who reply to them. However, students may post more or less than this, or not take part at all. The teacher will try to encourage learners to take part as actively as possible, as this task sets the dynamic for subsequent course tasks.

5.1 Cognitive Engagement in the Warm-up Task in Two Classrooms

As explained in chapter 4 (see section 4.3.2.1), learners in the two classrooms were grouped according to how their marks progressed from the first to the last assessed writing task as a way to measure their cognitive engagement. Not all learners assigned initially to the classrooms took part in this first warm-up task. Table 14 shows the total number of participants assigned to each classroom and the number of active participants in the warm-up task.

Table 14. Participants and MPGs for the 2 classroom in the warm-up task

	Classroom 1		Classroom 2	
All potential participants (+ teacher)	34 (+1)		39 (+1)	
All participants active in the warm-up task (+ teacher)	27 (+1)		28 (+1)	
Marks progression groups (MPG)	Non-starters	3 (11%)	Non-starters	2 (7%)
	Non-finishers	3 (11%)	Non-finishers	3 (11%)
	Marks down	2 (7%)	Marks down	0
	Marks same	14 (52%)	Marks same	11 (39%)
	Marks up	5 (19%)	Marks up	12 (43%)

The numbers of learners in each marks progression group (MPG) are indicated for each classroom and as we can observe in Table 16, classroom 1 had a higher proportion of active participants (28 of the possible 35, or 80%) than classroom 2 (29 of the possible 40, or 72.5%). The first three marks groups, "non-starters", "non-finishers" and "marks-down" were all small groups of learners with between 0 and 3 learners in each classroom. The biggest groups were the "marks-same" in both classrooms and the "marks-up" group in classroom 2.

Whereas in classroom 1, just over half of the learners' marks remained the same and 15% of learners' marks increased, in classroom 2, 36% of the learners' marks remained the same while 38% of their marks went up. The proportion of learners who did not finish the course is considerably higher in classroom 1 (20%) than in classroom 2 (8%) but there were more non-starters in classroom 2 (15%) than in classroom 1 (9%). The proportion of learners whose marks went down over the course was small in both classrooms (6% and 3%). For many learners, completing and passing the course may be their main objective and if we group the learners in this way, the differences between the two classrooms is less pronounced: in classroom 1, 78% of the learners who took part in the warm-up completed and passed the course and in classroom 2, 82% of the learners who took part in the warm-up completed and passed.

5.2 Behavioural Engagement in the Warm-up Task in Two Classrooms

As detailed in the methodology chapter, we take analyses of participation and interaction as indicators of behavioural engagement, or what participants actually did during the course of the task. In the following sections we will present analyses of participation in terms of the number of posts and words sent and the number of posts received. Means and standard deviations are

provided for active participants in each classroom and then for marks progression groups for each classroom. This is followed by analyses of when participants in each classroom posted main contributions and replies to provide a more nuanced view of when participants interacted. We report also on the proportion of post read dates as a way of unveiling less visible participation in the warm-up task. In terms of interaction, we compare mean interactions for each classroom and marks progression groups; we also compare threading characteristics for each classroom and finally, we look at how many different interlocutors those participants interacted with, comparing means between classrooms.

5.2.1 Participation.

Before looking in detail at how each marks progression group participated in terms of the number of posts to the forum, we recall from Table 11 in section 4.3.1.1 that in classroom 1 and classroom 2, there were a total of 67 and 85 posts respectively for the warm-up task. Figure 27 shows the mean number of posts, taking into account all active participants including the teacher (*n=28* and *n=29* for classroom 1 and classroom 2 respectively) for each classroom.

Figure 27. Mean number of posts for the warm-up task in the 2 classrooms

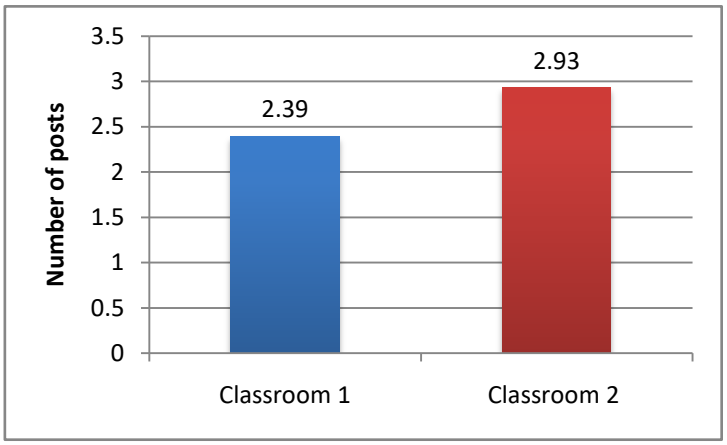
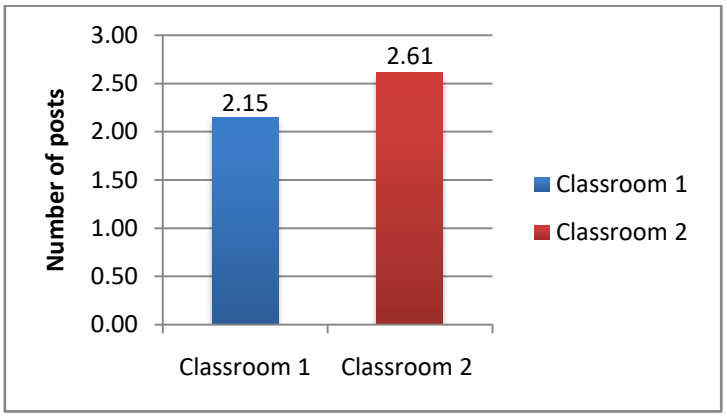


Figure 27 seems to indicate that in terms of the number of posts for the warm-up task, classroom 2 was more active than classroom 1: whereas in classroom 1, the mean number of posts was 2.39 (*Standard Deviation (SD) = 1.68*), in classroom 2, the mean number of posts was 2.93 (*SD = 2.52*). The standard deviation in classroom 2 indicates there was a wider range of number of posts than in classroom 1. In fact, participants in classroom 1 posted between 1 and 9 times, whereas in classroom 2, they posted between 1 and 12 times. The participant who posted the most in both classrooms was the teacher and if we look at the results without including the teacher, the difference between the mean number of posts between the two classrooms is slightly smaller as shown in Figure 28, but classroom 2 was still notably more active.

Figure 28. Mean number of posts by learners for the warm-up task in the 2 classrooms



The learners in classroom 1 posted a mean number of 2.15 times (*SD = 1.1*) and in classroom 2, they posted a mean of 2.61 times (*SD = 1.9*). If we bear in mind that the task instructions asked learners to post a main contribution and then reply to at least two classmates, according to our task-as-workplan, the mean scores are close to what we might expect, but clearly some participants posted more than the minimum and others posted less. Figure 29 shows a breakdown of how many participants posted how many times for the warm-up task.

Figure 29. Number of participants who posted and how much they posted for the warm-up

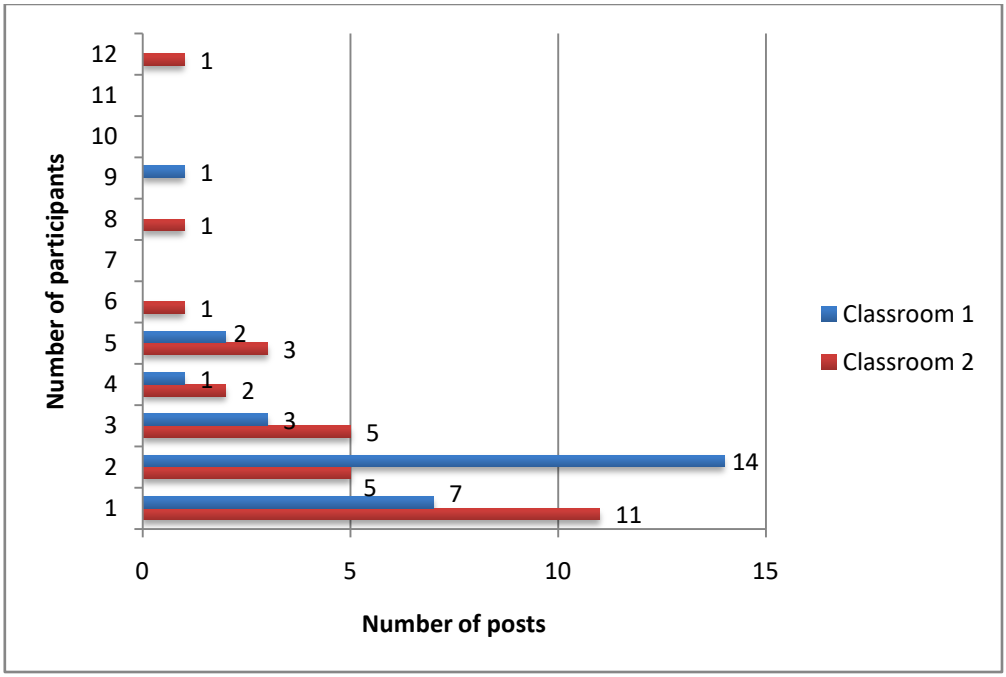
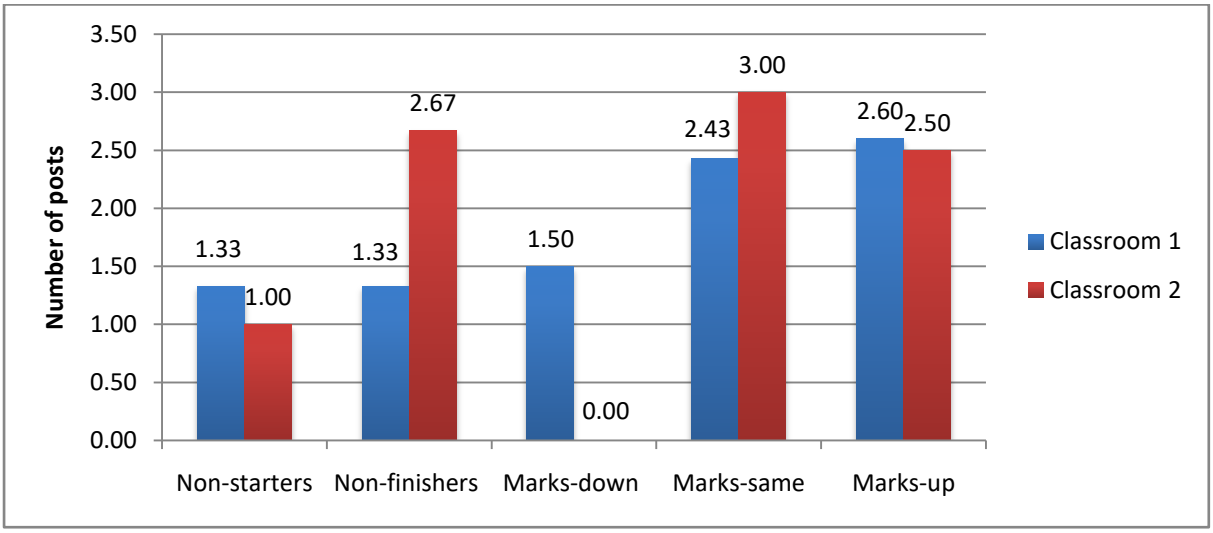


Figure 29 shows that in classroom 1, one participant posted 9 times (this was the teacher) two participants posted 5 times, one participant posted 4 times, three participants posted 3 times, fourteen participants posted twice and the remaining seven participants posted once. On the other hand, the teacher posted 12 times in classroom 2, one participant posted 8 times, one posted 6

times, three participants posted 5 times, two posted 4 times, five posted 3 times, five posted twice and the remaining eleven participants posted once. According to the task instructions (task-as-workplan), we would expect learners to post three times, but only 3 learners in classroom 1 and 5 learners in classroom 2 did this. We turn now to results for the number of posts according to marks progression groups. Figure 30 shows the mean number of posts for the warm-up for each marks progression group in the two classrooms. Only learners are included here as the teacher cannot be part of a marks progression group.

Figure 30. Mean number of posts for the warm-up in 2 classrooms according to MPGs



A comparison of the two classrooms across the different marks progression groups reveals that the non-finishers and marks-down groups posted quite differently in the two classrooms, while the non-starters, marks-same and marks-up groups posted quite similarly, especially the marks-up group. The difference between the results for the marks-down groups in the two classrooms can be explained by the fact that there were no learners in classroom 2 in this group at all.

The non-finishers group in classroom 1 posted an average of 1.33 times (*SD = 0.58*) whereas this group in classroom 2 posted an average of 2.67 times (*SD = 2.08*). The standard deviation for the posts in classroom 2 indicates there were considerable differences in posting behaviour between the three learners in the non-finishers group; in fact one learner posted 5 times and the other two posted once and twice each. This group of learners are those who dropped out at some time before the end of the course, but if they participated in the warm-up task, they seem to have had every intention of completing the course at this point. As the number of students in the non-starters, non-finishers and marks-down groups are all very low (between 0 and 6 students), it is difficult to draw conclusions from their forum participation data alone.

Looking at how much the remaining two marks progressions groups (the marks-same and marks-up groups) posted, we can observe that the mean number of posts are both significantly higher than for the learners in the non-starters groups. The marks-same and marks-up group posted on average 2.43 (*SD = 1.02*) and 2.60 (*SD = 1.52*) times respectively in classroom 1 and in classroom 2, the marks-same and marks-up groups posted 3.00 (*SD = 2.41*) and 2.50 (*SD = 1.31*) times respectively.

Overall, the results for classroom 1 seem to show that the more learners post early in the course, the more likely they are to show an improvement in marks later in the course. Classroom 2, however, does not follow this pattern, with much higher participation by the non-finishers than the non-starters; also in classroom 2, the marks-up learners posted less than the marks-same learners. However, with such small numbers of learners in the non-starters and marks-down groups as detailed above, it is difficult to draw conclusions from this one measure of participation alone.

It is important to recall that this is a non-assessed, optional warm-up task and students who are confident in their level before the course, or students who have taken on numerous other subjects at the same time and adopt a strategic approach to participation in those subjects, may have decided not to take part in the warm-up, and instead focus their attention on the assessed activities. As Comas-Quinn (2011) notes, students may be more cost-benefit oriented (Lockwood, 1995) and therefore opt to spend time on the parts of the course they feel are most valuable to them. Within a social learning context where interaction with others is necessary for learning to occur, high levels of participation might indicate an effective learning environment (Fulford and Zhang, 1993; Hew and Cheung, 2008), but in the context of a course warm-up, which is an unassessed and essentially, a voluntary task, for learners who are already familiar with the virtual learning environment and can immediately see that their participation in the task is not going to affect their course marks, some learners may choose not to take part. The fact that the majority of the learners in both classrooms took part in this task indicates a positive disposition to engage in the course. As we have seen, there were slightly more active participants in classroom 2 than in classroom 1 and this may have had an impact on the mean number of posts. Zhu (2006) makes the point that the size of a network and the amount of interaction tend to increase in proportional measures as the potential of person-to-person interaction grows.

As another measure of participation, the amount of language produced in the warm-up by each learner was also measured. Before looking in detail at the word counts for each marks progression group, we recall from section 4.3.1.1 that in classroom 1 and classroom 2, there were a total of 5,517 and 5,287 words posts respectively for the warm-up task. Figure 31 shows the mean number

of words posted for all participants who were active in the warm-up task, including the teacher (*n=28* and *n=29* for classroom 1 and classroom 2) for each classroom.

Figure 31. Mean number of words posted for the warm-up in the 2 classrooms

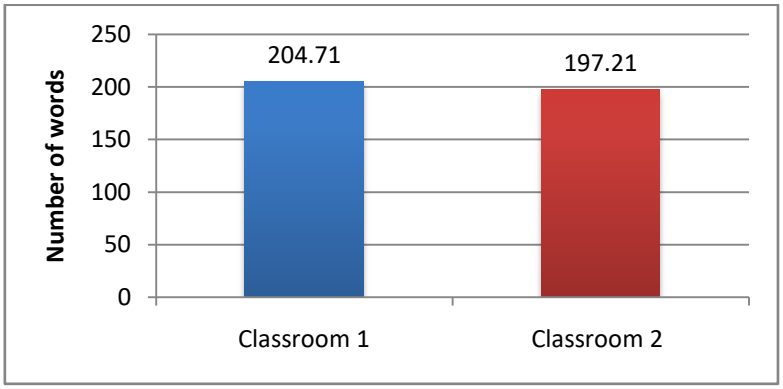
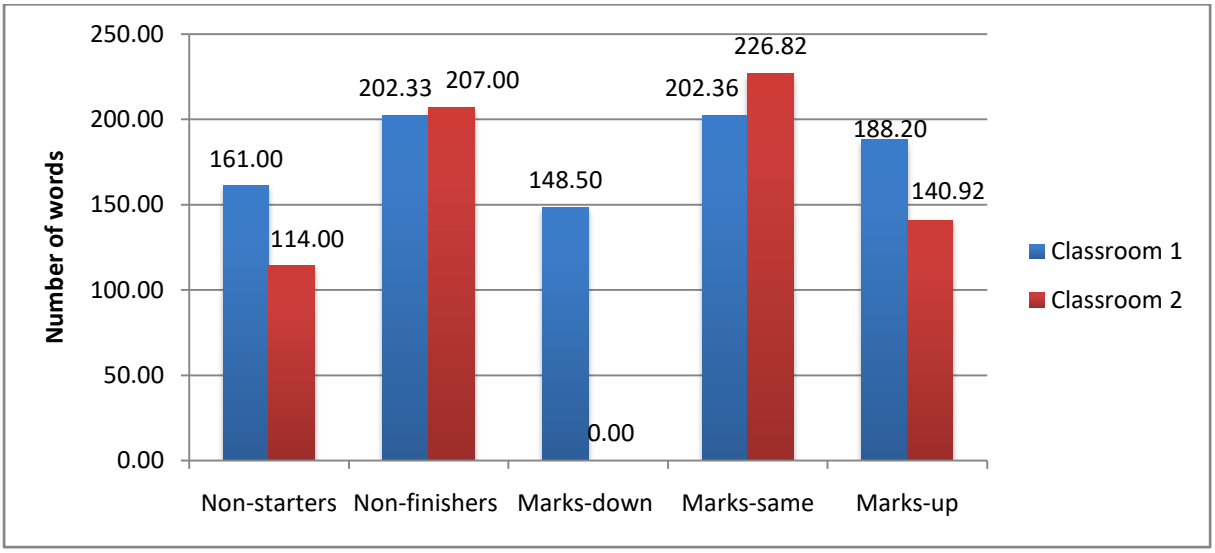


Figure 31 would seem to indicate that in terms of the number of words posted for the warm-up task, the learners in classroom 1 produced more language than those in classroom 2: whereas in classroom 2, the mean number of words was 197.21 (*SD = 166.54*), in classroom 1, the mean number of words was 204.71 (*SD = 115.06*). The standard deviation in classroom 2 tells us there was a wider range of number of word counts than in classroom 1. Although the learners in classroom 2 posted more times than those in classroom 1, as we saw in the previous section, the learners in classroom 1 produced slightly more words than those in classroom 2.

We turn now to the breakdowns for word counts according to the marks progression groups. Figure 32 shows the mean number of words posted in the warm-up by marks progression group for each classroom. No analysis of the content of the posts was performed at this stage.

Figure 32. Mean number of words posted for the warm-up in 2 classrooms according to MPGs



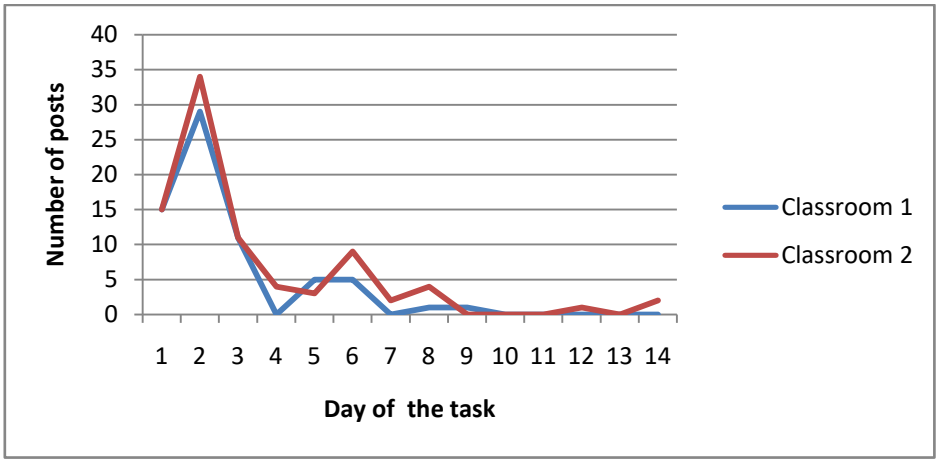
The results displayed in Figure 32 for the different marks progression groups are quite similar for each classroom. The marks-same groups posted the highest number of words in this task in both classrooms with 202.36 (*SD =102.63*) in classroom 1 and 226.82 (*SD = 187.57*) in classroom 2 respectively; the standard deviation for classroom 2 indicates there was a wider discrepancy between the individual learners in this group in both classrooms and in fact, in classroom 2, the range of words posted was 80 to 651.

The non-finishers on average posted almost as much as the marks-same group with 202.33 (*SD = 63.80*) words on average in classroom 1 and 207 (*SD = 188.57*) words on average in classroom 2 but again, the standard deviation in classroom 2 indicates a bigger difference regarding the length of posts between learners in classroom 2. The results for the learners in the non-finishers groups in both classrooms were as high as or higher than the learners who completed the course but as argued in the previous section about the number of posts, it is more than possible that those learners had every intention of completing the course at such an early stage. Other marks progression groups showed marked differences between the classrooms. The non-starters group in classroom 1 posted on average 161 (*SD = 147.29*) words whereas in classroom 2 they posted 114 (*SD = 65.05*) words on average. The difference between the two classrooms for the marks-down group is, again, explained by the fact that there were no learners in this group for classroom 2. Perhaps the most surprising results are to be found in the marks-up groups in both classrooms, whose members posted on average fewer words than those in the non-finishers and marks-same groups in both classrooms. In fact, in classroom 1 they posted 188.20 (*SD = 71.96*) words and in classroom 2, 140.92 (*SD = 67.88*) words. This again is a good justification for looking at subsequent assessed tasks to see how learners post when the marks count towards final course marks. As noted in the previous section, the number of students in the first three groups was small compared to those in the marks-same and marks-up groups, making it difficult to draw conclusions when comparing numbers of words among groups.

Overall, the mean number of words for the marks progression groups does not seem to be a good predictor of how learners' marks will change over the course. We will need to look in more detail at other measures of participation for this task, but then also to measure what learners do in subsequent assessed tasks, as we will do in our second case study (see chapter 6). Learners may be participating in less active or less visible ways than posting numerous times with high word counts and so for this reason, we now look at other ways of measuring behavioural engagement. Thus, we will examine how often they read posts in the forum and how much they interacted by considering how many other participants replied to their posts.

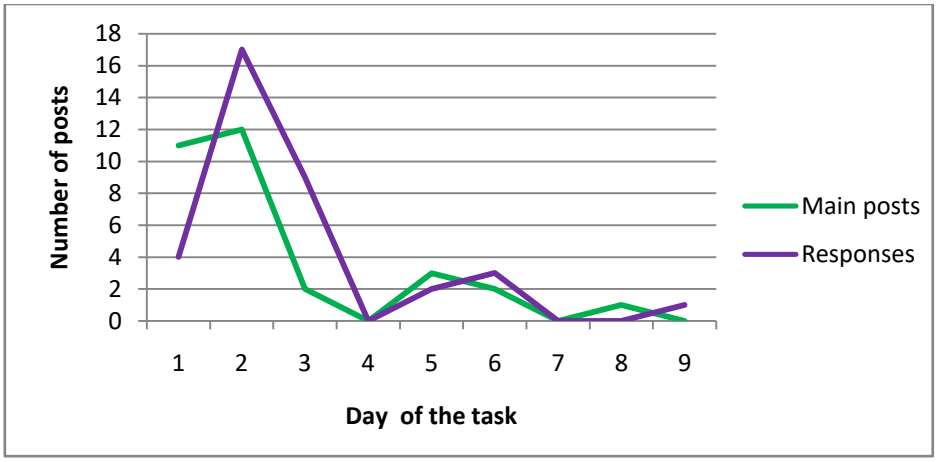
The warm-up task was scheduled to take place over a period of 7 days but as it was not assessed, learners continued to take part after this. In classroom 1, the task continued for 9 days and in classroom 2, while the majority of posts were sent over 8 days, several posts were sent up to 14 days. Figure 33 shows when posts were sent to the forum for the warm-up task. As we can observe, both classrooms exhibit similar patterns.

Figure 33. When participants posted for the warm-up in the 2 classrooms



In Figure 33, we can see that the second day sees the highest number of posts and there was a sharp decrease on day 4. Day 1 was a Wednesday, which means Day 4 was a Saturday and it is not uncommon to see such a decrease in forum activity over the weekend. A few more posts come at the start of the following week. Figure 34 shows when participants in classroom 1 posted their main posts (the first post in a forum discussion thread) and when they posted responses to these.

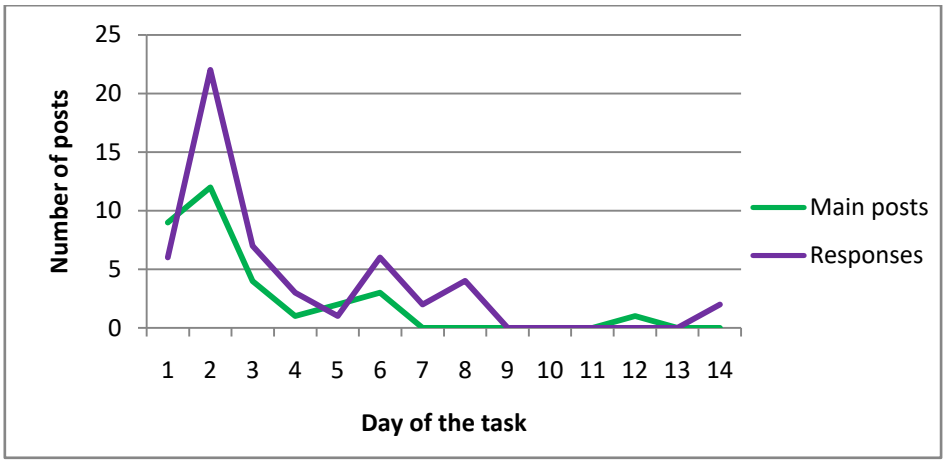
Figure 34. When participants posted main contributions and responses in classroom 1



As we can observe, there were more main posts than responses on Day 1; this is natural because the task asked learners first to introduce themselves. The second part of the task asked learners to read other participants' introductions and then write to one or two others with whom they have

something in common and this explains why on Day 2, we see more responses than main posts. In classroom 1, this trend continues until Day 5 when there are slightly more main posts than responses. Figure 35 shows when participants posted their main posts and responses to these for classroom 2.

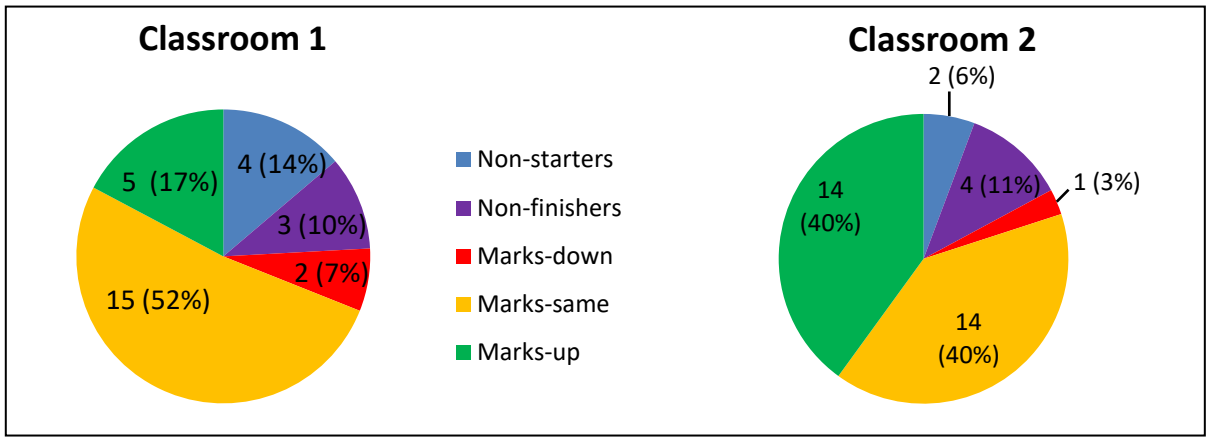
Figure 35. When participants posted main contributions and responses in classroom 2



As we can observe in Figure 35, there are similarities between how the participants in classroom 2 and those in classroom 1 carried out the task. Again, we see that there were more main posts than responses on Day 1 and then on Day 2, there was a sharp increase in responses. However, classroom 2 shows that learners were still posting their introductions to the rest of the class until 12 days after the task started. Overall, we can say that the task took place in a shorter and more intense way in classroom 1 than in classroom 2.

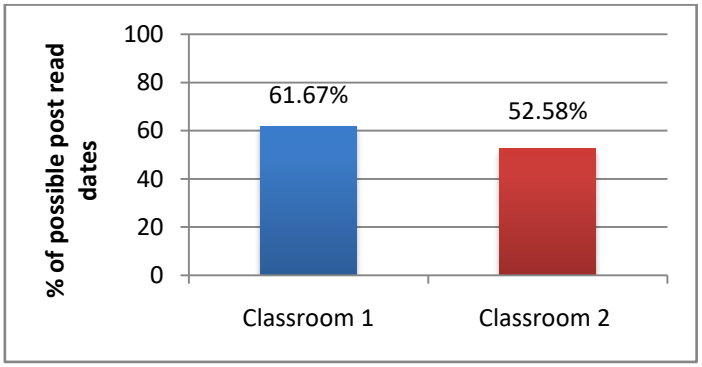
As noted above, the warm-up task lasted slightly longer in classroom 2 than in classroom 1 and for this reason, a straight comparison of mean number of post read dates would not be a fair comparison between the two classrooms. Therefore, we calculated the proportion of total possible read dates for each classroom. Furthermore, we included participants who read posts on at least one day, regardless of whether they took an active part in the task by posting to the forum or not. We refer to participants who read posts, but did not send any contributions in this study as "non-visible" participants. While there were 27 and 28 learners in classroom 1 and classroom 2 respectively who posted at least once to the warm-up task, there were 29 and 35 learners in classroom 1 and classroom 2 respectively who read posts at least once during the task. In other words, classroom 1 had two non-visible participants and classroom 2 had seven non-visible participants. The charts in Figure 36 show the proportions of learners in each mark group for the two classrooms who read posts in the forum at least once during the task.

Figure 36. Learners who read posts for the warm-up in the 2 classrooms according to MPGs



In Figure 36 we can observe that one of the two non-visible participants in classroom 1 belonged to the non-starter group and the other to the marks-same group. In classroom 2, the seven non-visible participants were spread between all groups except for the non-starters group with one in the non-finishers group: there was one in the marks-down group, three in the marks-same group and two in the marks-up group. Participants who read posts but did not take an active part by posting in discussion forums have been referred to in previous research into forum participation as "lurkers" (see for example Mason, 1994). In the context of the present study though, this concept is only relevant in the warm-up task, because a pre-requisite for passing the course is participation in all assessed tasks. Learners who only read posts and never post anything themselves for the assessed tasks fail the course. While the present study focuses mainly on the learners who take part in all tasks, it is interesting to note that despite dropping out, learners may read classmates' posts and still be learning, albeit in a more passive way. If this information was more readily available to teachers during the early stages of the course, they may be able to intervene and "recover" learners who would otherwise drop out of the course completely. Figure 37 shows the mean number of posts read dates for all forum participants, including the teacher (*n=30* and *n=36* for classroom 1 and classroom 2) for each classroom.

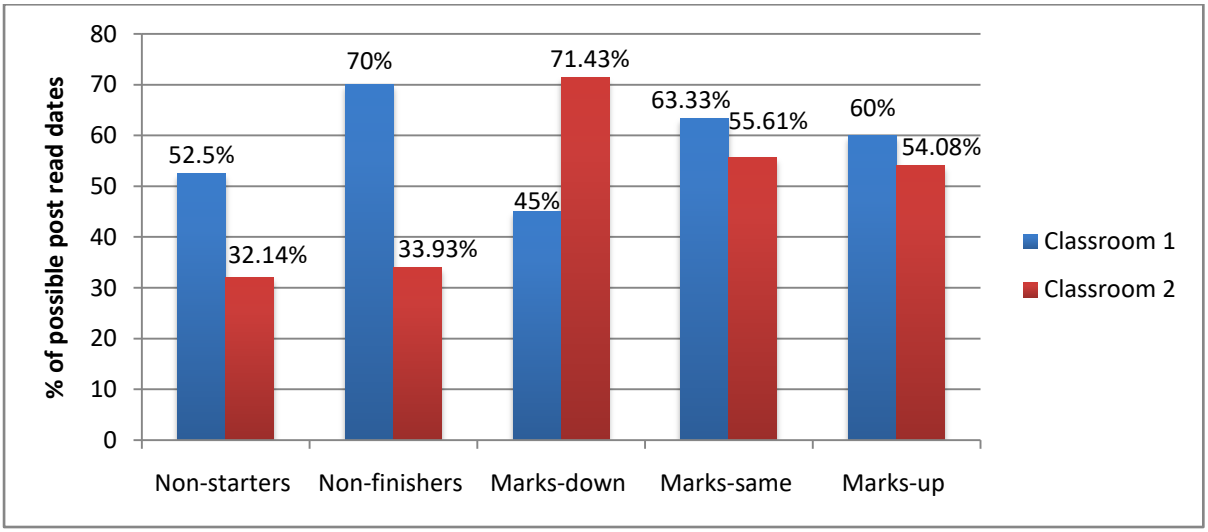
Figure 37. Mean proportion of posts read dates for the warm-up in the 2 classrooms



As displayed in Figure 37, participants in classroom 1 read posts on a higher proportion of possible dates than participants in classroom 2. The number of participants (*n=30 and n= 36* in classroom 1 and 2 respectively) was a little different. As a consequence, there were more learners in classroom 2 reading posts than in classroom 1, but the results do seem to indicate that the participants in classroom 1 were reading posts more often than those in classroom 2. The standard deviations for each classroom (c*lassroom 1 SD = 21.51* and c*lassroom 2 SD = 23.17*) indicate a similar range of proportions of posts read dates against possible read dates of posts in both classrooms.

We turn now to the breakdown of the marks progression groups in the two classrooms and the proportion of post read dates for each group. Figure 38 shows the breakdown by classroom and marks progression group.

Figure 38. Proportion of post read dates for the warm-up in 2 classrooms according to MPGs



Perhaps the most surprising results are those in the non-starters and non-finishers groups. We can see in Figure 38 that participants from the non-starters and non-finishers groups in classroom 1 read posts on 52.5% and 70% respectively of the days the task was active in the forum. The results for classroom 2 for these two groups (32.14% and 33.93% respectively) indicate that learners were, at least, reading the posts in the forum for approximately a third of the possible days. This would mean that those learners in classroom 2 were connecting once every 3 days, but the non-starters and non-finishers in classroom 1 were connecting every other day or more often. The marks-down group in classroom 2 consisted of one learner (and this person posted nothing and was therefore not included in our previous results for active participation) but that person was connecting and reading posts in the forum more often than every other day. The marks-same and marks-up groups were both, by far, the biggest groups of learners, as noted above, and they were connecting at least once every other day to read posts in the forum. However, if we note the standard deviations, there is a

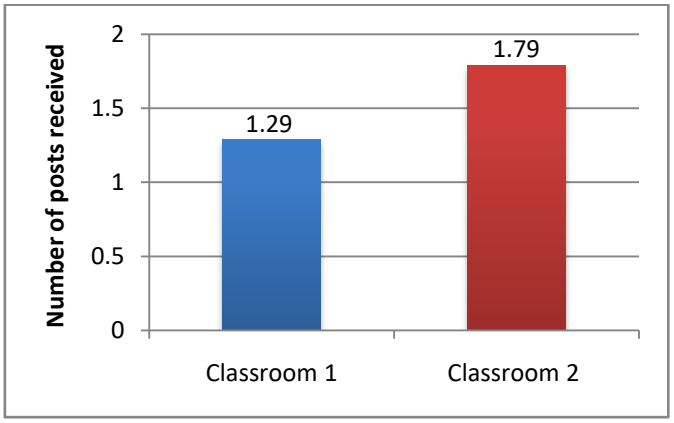
wide range of variation within these two groups: in classroom 1, the proportion of post reading days ranged from 29% and 93% and in classroom 2, the proportion ranged from 7% and 86%.

Reviewing the data for the proportions of posts read dates, the learners who did not read any of their classmates' posts did not post a message either. At the same time, all learners who posted in the warm-up task also read a proportion of their classmates' posts. However, as we have seen, several learners read posts but did not post themselves for this first warm-up task and these learners were not all in the non-starters group. This last point is interesting, and may be explained either because those students enrolled in the course after the warm-up finished and therefore felt it was not worth taking part in the task, or because those students made a conscious decision not to take an active part in this task at all, perhaps due to lack of time or interest in the task. This might indicate that these learners were implementing strategies to manage their workload, which as Sinatra et al. (2015) point out, is considered to be an indicator of cognitive engagement. We would need to ask those learners to be able to confirm this hypothesis, but that falls outside the scope of the present research.

5.2.2 Interaction.

In this section, we report on various indicators of interaction as part of our analysis of behavioural engagement. Figure 39 shows the overview of the mean number of posts received by all participants in each classroom and includes all participants who posted contributions themselves, including the teacher.

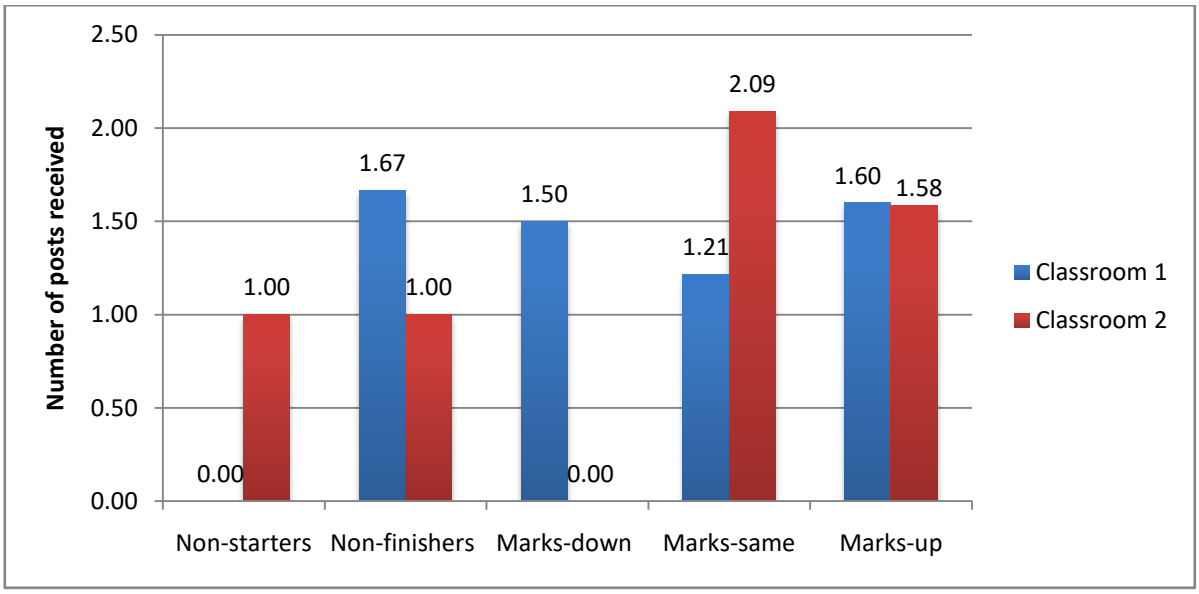
Figure 39. Mean number of posts received for the warm-up task in the 2 classrooms



As we can observe in Figure 39, participants in classroom 2 received more posts on average than those in classroom 1. The number of participants in the two classrooms (*n=28 and n=29* in classroom 1 and 2 respectively) was similar, but the results indicate a higher level of interaction in classroom 2, at least in terms of participants replying to each other. However, the standard deviations for each classroom (*classroom 1 SD = 1.36* and *classroom 2 SD = 2.02*) indicate a much wider variation in the

number of posts received in classroom 2 and that a small number of participants received high and low numbers of posts. In fact, the range for classroom 1 is from 0 posts to 4 posts received, whereas in classroom 2, the range is from 0 to 8 posts received. Figure 40 shows the breakdowns of the mean number of posts received for the marks progression groups in each classroom.

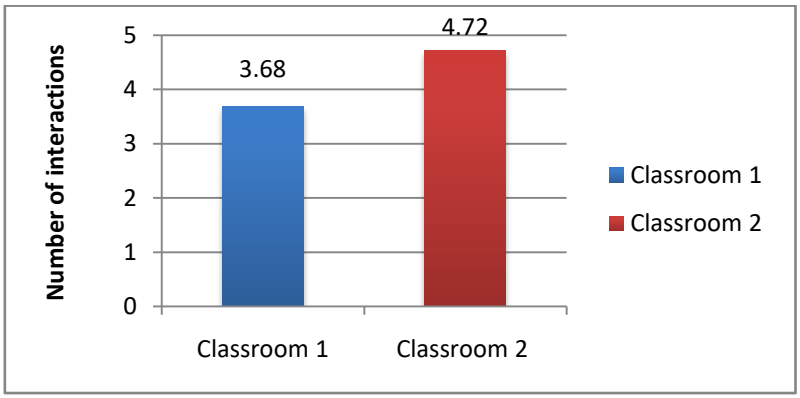
Figure 40. Mean number of posts received for the warm-up in 2 classrooms according to MPGs



Looking at the results for the different marks groups, we can see that the non-starters in classroom 1 received no posts from their classmates. It is difficult to draw conclusions here as the group is small *(n=3)*, but it is interesting to note that those who did not receive responses are also those who dropped out of the course. In contrast, the non-finishers group in classroom 1 had the highest mean number of posts received in this classroom (*M = 1.67; SD = 1.53*) and the marks-down group had a similar mean (*M = 1.50; SD = 2.12*), although as with the non-starters, the size of these two groups was small (*n=3* and *n=2* respectively). In classroom 2, the non-finishers received a mean of 1 post (*SD = 1.00*) and there were no learners in the marks-down group in classroom 2. Looking at the marks-same and marks-up groups in classroom 1, the learners whose marks went up received more posts (*M = 1.60; SD = 0.89*) than those whose marks stayed the same (*M = 1.21; SD = 1.48*). However, the means for classroom 2 were the opposite with the marks-same group receiving considerably more posts (*M = 2.09; SD = 2.51*) than the marks-up group (*M = 1.58; SD = 1.73*). Based on our results, it is impossible to draw firm conclusions about the relationship between receiving posts during the warm-up task and how learners' marks will progress over the course.

Figure 41 shows the mean number of interactions for all participants in the two classrooms. The number of interactions includes posts sent plus posts received by each participant.

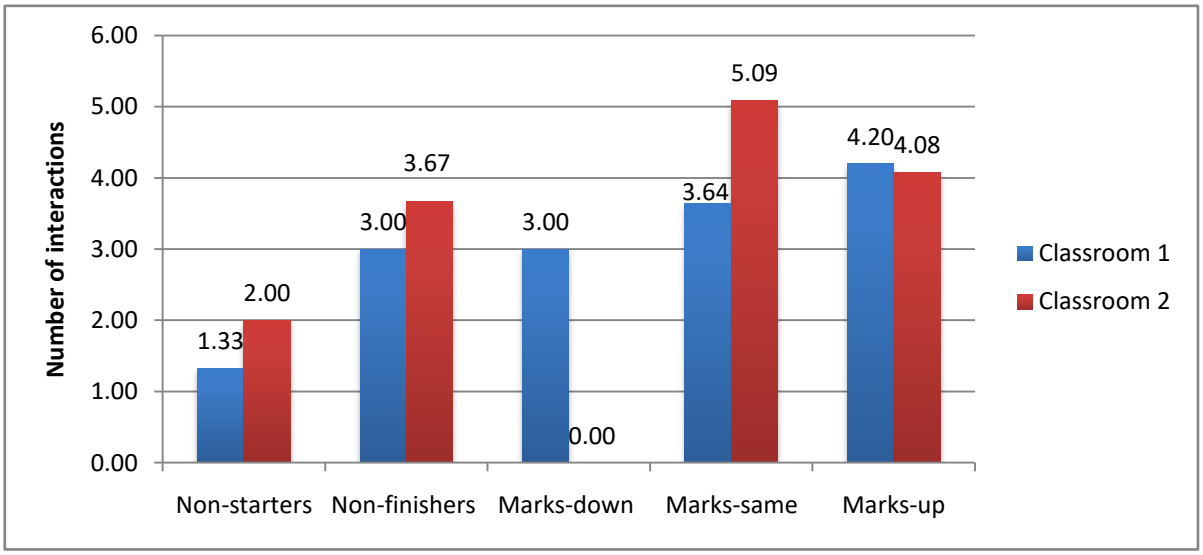
Figure 41. Mean number of interactions for the warm-up in the 2 classrooms



As we can see in Figure 41, there were more interactions in classroom 2 (*M = 4.72; SD = 4.32*) than in classroom 1 (*M = 3.68; SD = 4.32*). This is unsurprising as there were more posts in classroom 2 (*n=85*) than in classroom 1 (*n=67*).

We also calculated the mean number of interactions according to the marks progression groups. Figure 42 shows the results for this.

Figure 42. Mean number of interactions for the warm-up in 2 classrooms according to MPGs



In Figure 42, we can see that non-starters in both classrooms interacted with other participants noticeably less than the learners in all other groups (classroom 1 *M = 1.33; SD = 0.58* and classroom 2 *M = 2.00; SD = 1.41*) but there was a significant increase in interaction in the non-finishers group (classroom 1 *M = 3.00; SD = 1.73* and classroom 2 *M = 3.67; SD = 3.06*). This seems to indicate that those learners who did not finish the course (the non-finishers) had the intention of completing it at this early stage. The marks-down group in classroom 2 had no participants but in classroom 1, they had the same mean number of interactions as the non-finishers group in classroom 1 (*M = 3.00; SD =*

1.41). There was a sharp increase in the mean number of interactions for the marks-same group, particularly in classroom 2 (*M = 5.09; SD = 4.87*) compared with classroom 1 (*M = 3.64; SD = 2.21*). Finally, the marks-up group in classroom 2 showed a lower level of interaction (*M = 4.08; SD = 2.84*) compared with the classroom 1 marks-up group (*M = 4.20; SD = 2.84*). The results for this measure support the findings for the measures for participation: the non-starters interact less than all of the other groups, the non-finishers interact more than the non-starters group but generally less than the marks-down, marks-same and marks-up groups and the learners in the marks-same and marks-up groups both interact the most in both classrooms.

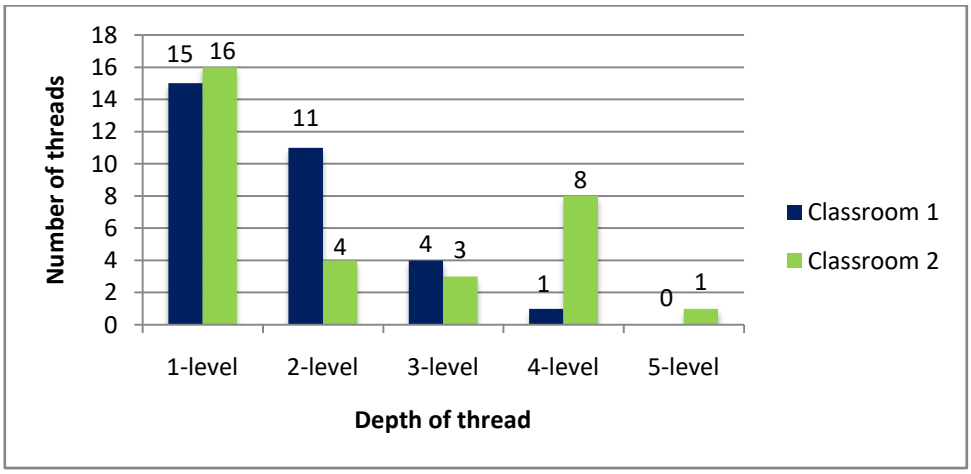
Another way we measure interaction is by comparing the threading characteristics in the two classrooms. Firstly, we consider the length of threading and secondly, we explore the depth of threads. The length of threading is calculated by taking the total number of posts and dividing this by the total number of discussion threads. As we can observe in Table 15, classroom 2 shows that threads were longer on average than in classroom 1.

Table 15. Thread length for the warm-up task in the 2 classrooms

Warm-up	Posts	Threads	Thread length average
Classroom 1	67	31	2.16
Classroom 2	85	32	2.66

Figure 43 shows the depth of threads in the two classrooms. A 1-level thread refers to a post which has no replies, a 2-level thread refers to a thread with at least one direct reply to a first-level post, a 3-level thread refers to a thread which contains at least one reply to a second-level post, a 4-level thread refers to a thread which has at least one reply to a third-level post and a 5-level thread refers to one which has at least one reply to a fourth-level post.

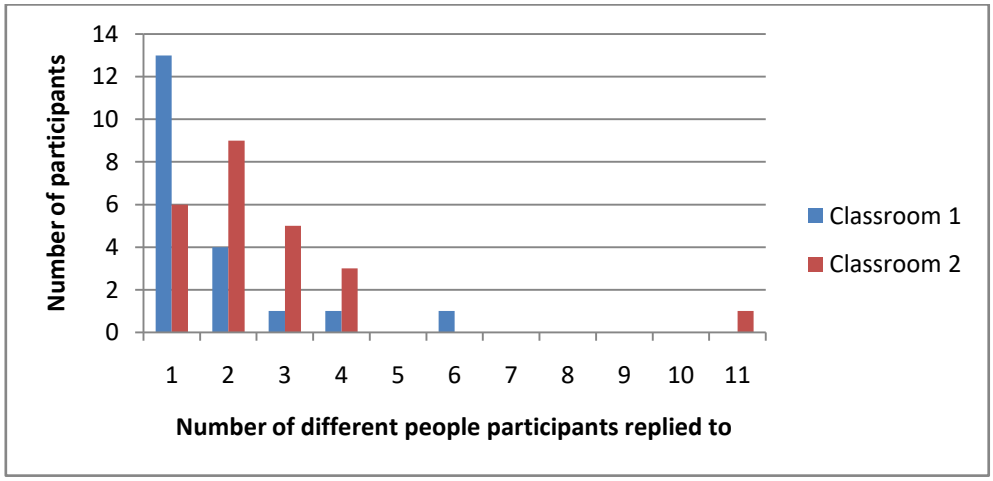
Figure 43. Depth of threads for the warm-up task in the 2 classrooms



As we can observe in Figure 43, both classrooms had a similar number of one-level threads, sometimes referred to as "orphan" posts (Dawson, 2006), where no one replies. On the other hand, classroom 1 had more than twice the number of 2-level threads than classroom 2. Both classrooms had similar numbers of 3-level threads but classroom 2 had eight times as many 4-level threads as classroom 1 and also had one five-level thread, which classroom 1 did not. These findings seem to indicate that the participants in classroom 2 were more interactive than those in classroom 1. While every post in the forum is essentially 'one-to-many', when participants reply within a thread, it is more likely that they are engaging with each other, and therefore fostering optimum conditions for learning. This seems to confirm findings by Hew and Cheung (2008), although they claim that threads need to consist of 6 levels or more to count as successful in terms of quality of interaction. A crucial difference with their study and ours though is that their participants are pre-service teachers whereas here, the participants were language learners and this may explain the shorter discussion threads we found in our data. Language learners may not have enough linguistic competence to discuss issues in great depth.

Another way to compare the level of interactivity taking place in the forums in each classroom during the warm-up task is to consider how many different people participants reply to. The results for the two classrooms in our study are shown in Figure 44.

Figure 44. Number of different participants replied to for the warm-up in the 2 classrooms



As we can observe in Figure 44, participants in classroom 1 replied to between 1 and 6 different participants, with a mean of 1.7 (*SD = 1.3*). In classroom 2, participants replied to between 1 and 11 different participants, with a mean of 2.58 (*SD = 2.04*). The participant who replied to the highest number of different participants was the teacher in both classrooms. We can observe that in classroom 1, the majority of participants (13) replied to one person, whereas in classroom 2, 9 participants replied to 2 different people and 5 participants replied to 3 different people. These

results seem to show that participants in classroom 2 were interacting with a wider range of different people than those in classroom 1. This may have two implications. Firstly, the degree of social interplay among participants is beneficial for developing a sense of community (Dawson, 2006) and if this is achieved early on in the course, as is the case in our study, this may be beneficial later in the course. Secondly, we would also suggest that as long as the number of replies to other participants is maintained, threads with fewer different participants may contribute to fostering stronger interpersonal relationships. Both of these implications may be evidence that the participants in classroom 2 were developing a stronger sense of community than the participants in classroom 1 during the warm-up task.

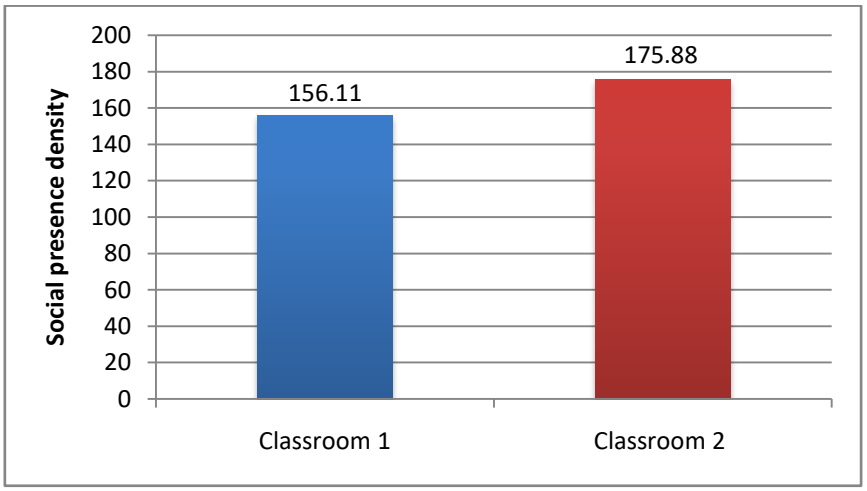
5.3 Emotional Engagement in the Warm-up Task in Two Classrooms

In this section, we will present and reflect upon our findings regarding learners' emotional engagement in the unassessed warm-up task, as measured by the amounts and types of social presence. For this case study, the data from classroom 1 and classroom 2 for the warm-up task in the corpus were coded for the three social presence categories (affective, cohesive and interactive) using Satar and Akcan's (2018) coding chart shown in Table 10 in chapter 4. We will provide the results for social presence density, first for all participants in each classroom and then for the different marks progression groups. We will then explore the types of social presence (affective, cohesive and interactive) that all the participants in each classroom expressed before comparing the types of social presence expressed by learners in the different marks progression groups. Our objective is to unveil the amount of social presence in each classroom and also understand the types of social presence which are expressed and to consider whether these are related with the degree of language development learners showed according to their marks progressions over the course. In terms of task-as-workplan, the task instructions encourage participants to get to know one another and therefore we would hope to find high levels of social presence in forum posts.

5.3.1 Social presence density.

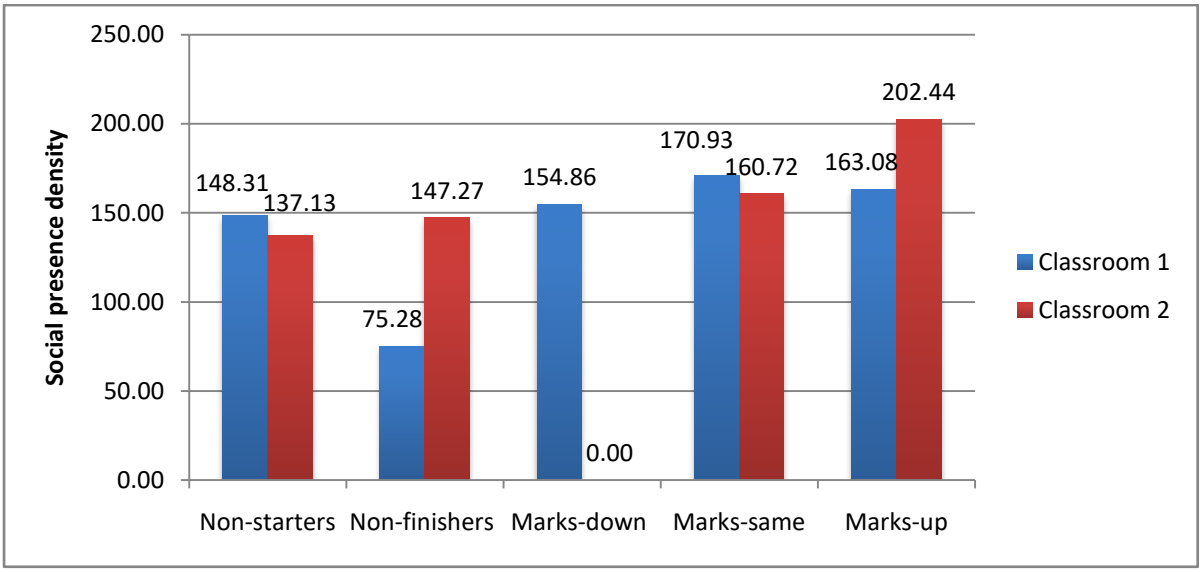
We first look at social presence density in each classroom in the warm-up task. As detailed in chapter 4, social presence density is calculated by dividing the instances of social presence by the word count and then multiplying the result by 1000. This gives an indicator of the social presence per thousand words. In Figure 45, we can observe that the warm-up posts in classroom 2 showed a higher social presence density (*M = 175.88; SD = 51.03*) than the forum in classroom 1 (*M = 156.11; SD = 54.56*).

Figure 45. Social presence density for the warm-up in the 2 classrooms



The nature of this measurement means that it is not skewed by the number of participants or by the amount each participant posted because only participants who posted at least once are included and also, the calculation is based on the instances of social presence per thousand words. The different levels of social presence in the two classrooms seem to indicate that the participants in classroom 2 projected themselves as real people more effectively than those in classroom 1. This may have an impact on the development of the sense of community among the participants. We now move on to the details of social presence density according to the mean scores for the learners in the marks progression groups in the two classrooms, as shown in Figure 46.

Figure 46. Social presence density for the warm-up in the 2 classrooms according to MPGs



The overall trends shown in Figure 46 differ between the two classrooms. The pattern which is observable for classroom 2 is consistently upward except for the marks-down group, which had no

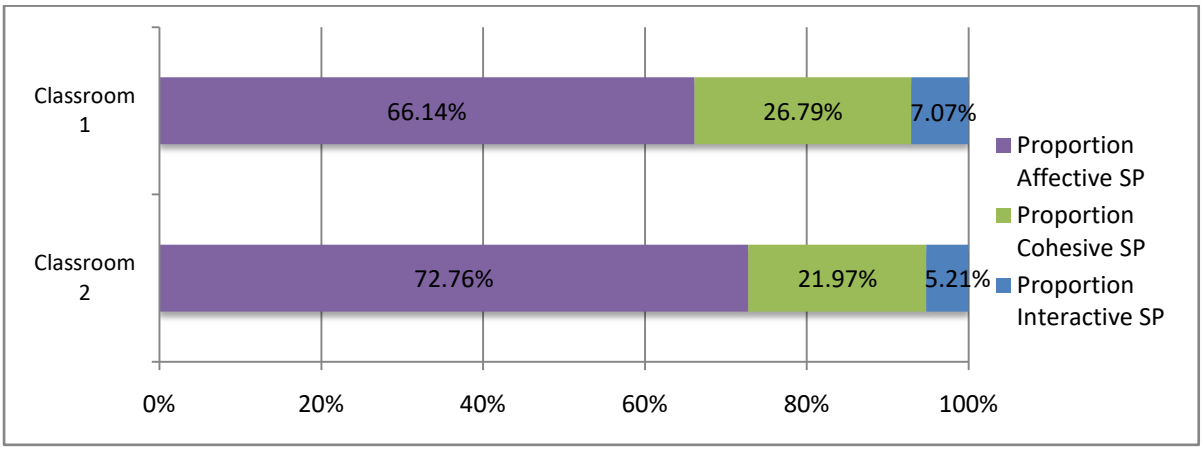
participants. The highest social presence density is found in the learners in the marks-up group in classroom 2, with a mean social presence density score of 202.44 (*SD = 54.40*). However, classroom 1 did not follow this pattern, with the non-starters displaying significantly higher social presence density (*M = 148.31; SD = 35.37*) than the non-finishers (*M = 75.28; SD = 18.74*) and similar levels to the marks-down groups (*M = 154.86; SD = 40.09*). In fact the non-starters showed a high social presence density in both classrooms (classroom 1 *M = 54.98; SD = 39.53* and classroom 2 *M = 48.16; SD = 15.08*). Comparing levels of social presence can help us understand the degree to which participants express themselves in a way which can foster a sense of community but we also explored differences in levels of the three types of social presence.

5.3.2 Types of social presence.

Various studies (Rourke et al., 1999; Satar and Akcan, 2018; Swan, 2001, 2002, 2003) identify three types of social presence: affective, cohesive and interactive. Affective social presence is indicated by the use of emoticons and humour, by evidence of self-disclosure, showing of emotion and expressions of value. According to Rourke et al. (1999), affective social presence enhances the socioemotional experience of participants in online communication. In a warm-up task such as the one in this study, we would expect participants to show high levels of affective social presence. Cohesive social presence relates to communication which develops and maintains a strong sense of community among the participants and so we would hope to find evidence of this type of social presence in a course warm-up task. Cohesive social presence is characterised by the use of vocatives (naming other participants), phatic expressions (that is, expressions which serve a social function such as greetings and closures), and intersubjectivity. We may expect to find examples of the latter indicator in a task which asks participants to identify aspects they have in common with each other. Finally interactive social presence is indicated by expressions which refer directly to the contents of others' posts, by questions, expressions of appreciation and expressions of agreement or disagreement. Interactive social presence is considered to be essential for interaction to be perceived as meaningful as it encourages the development of relationships among participants; in this sense, it also helps to build and maintain the sense of community.

In the present study, the raw numbers of instances of each type of social presence are small and so rather than calculating the density of each category of social presence, as was done in the previous section for the instances of social presence overall, we analysed the proportions of each category of social presence against the total instances of social presence for each participant. Figure 47 shows the proportions of each category of social presence, affective, cohesive and interactive, for all participants who took part in the task.

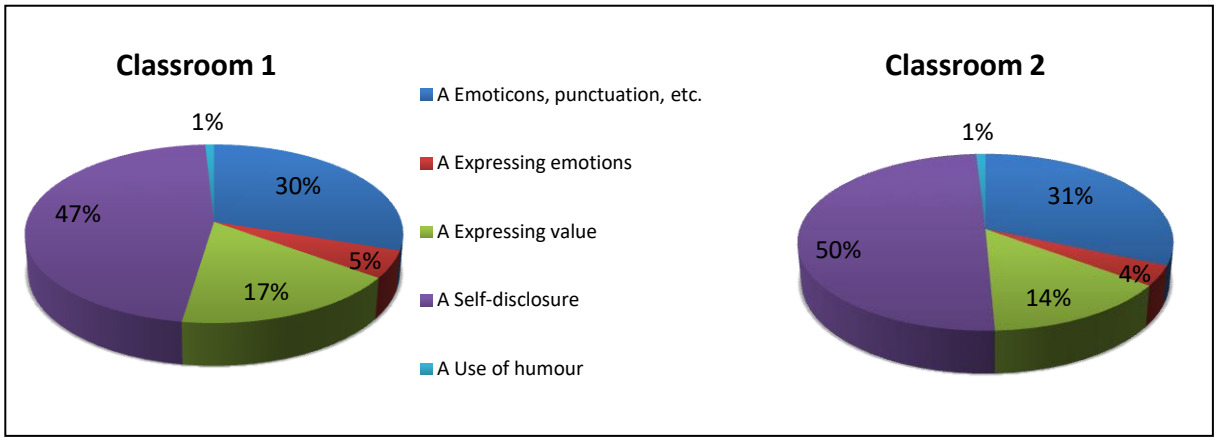
Figure 47. Proportion of each type of social presence in the warm-up in the 2 classrooms



As we can observe in Figure 47, both classrooms display similar patterns: the majority of instances of social presence were in the affective category; this was followed by instances from the cohesive category and interactive social presence made up the rest. Specifically, classroom 1 posts showed 66.14% (*SD = 11*) and those in classroom 2 were 72.76% (*SD = 12*) affective social presence. For cohesive social presence, the posts in classroom 1 showed 26.79% (*SD = 9*) and classroom 2 posts showed 21.97% (*SD = 9*). Finally for interactive social presence, classroom 1 posts showed 7.07% (*SD = 5.3*) and in classroom 2, 5.21% (*SD = 0.5*). These findings seem to support those of Swan (2002, 2003) and Satar and Akcan (2018): affective presence is considered to be crucial for establishing social presence and is therefore more present than the other types of social presence in this first task at the start of the course. Bearing in mind also that the warm-up task consists of participants sharing details about themselves with the aim of finding things in common and getting to know each other, it is not surprising that we find a high proportion of instances of social presence of the affective and cohesive categories, as the groups of learners are starting the course and establishing connections with each other. On the other hand, while we may also expect to find instances of interactive social presence in a task which asks learners to identify common ground with each other, our findings seem to confirm those of Swan (2002, 2003), Swan and Shih (2005) and Vaughan and Garrison (2006) in that affective social presence is used most and that levels of interactive social presence are low at the start of the course.

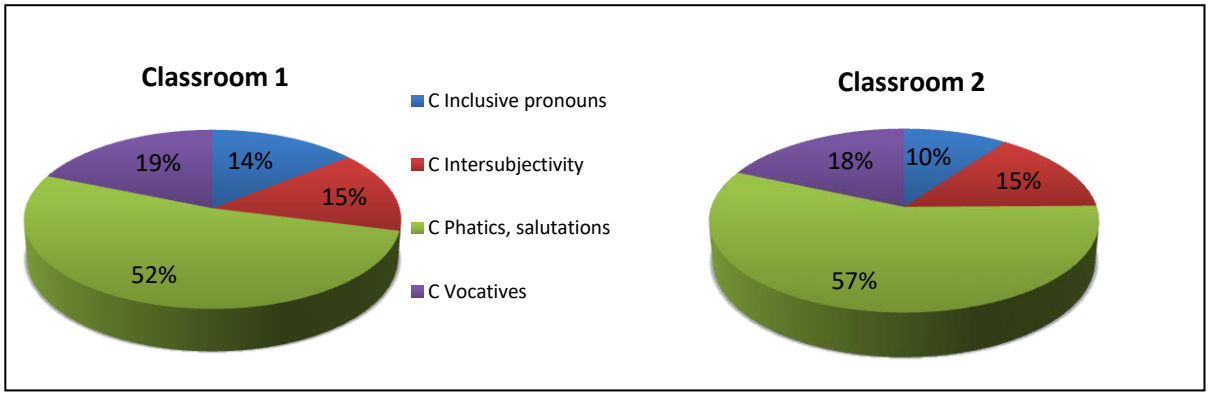
We now report on the specific indicators for each type of social presence in the two classrooms. Firstly, Figure 48 shows the proportions of each of the indicators of affective social presence.

Figure 48. Breakdown of affective social presence in the warm-up in the 2 classrooms



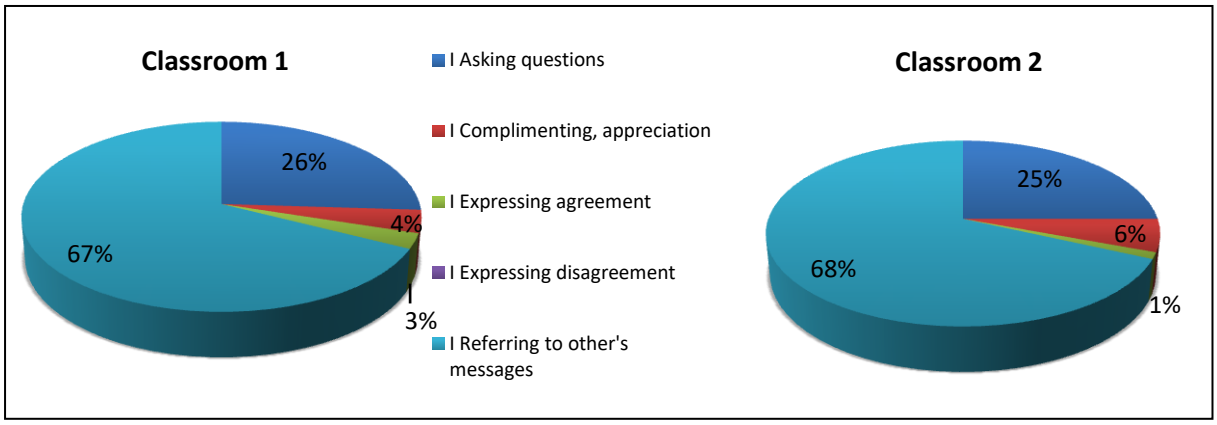
As we can observe in Figure 48, both classrooms show similar patterns. Expressions of self-disclosure accounted for approximately half of the instances of social presence in the two classrooms. As the task asked learners to share personal information, this is quite natural. Both classrooms also showed similar proportions, around 30%, of emoticons or punctuation used to in an unconventional way. There were several instances of expressions of value and then a small proportion was represented by expressions of emotion or humour. Moving on to cohesive social presence, Figure 49 shows the breakdown of each of the indicators of this type of presence in the two classrooms.

Figure 49. Breakdown of cohesive social presence in the warm-up in the 2 classrooms



As we can observe in Figure 49, more than half of the instances of cohesive social presence were phatic expressions and salutations. Vocatives accounted for just under 20% of the instances of cohesive social presence in both classrooms as participants addressed others by name. Only 15% of the instances of cohesive social presence in both classrooms were expressing intersubjectivity, where participants emphasised common aspects with others. This is surprising as the task asked learners to do this. It is possible that learners did not have the linguistic means to do so. Finally, Figure 50 shows the breakdown of interactive social presence indicators for the two classrooms.

Figure 50. Breakdown of interactive social presence in the warm-up in the 2 classrooms



As we can observe in Figure 50, both classrooms exhibit almost identical breakdowns of interactive social presence indicators. Firstly, instances of participants referring to others' messages accounted for two thirds of the instances. This was followed by asking questions, which accounted for over a quarter of the instances. The remaining instances consisted of complimenting or showing appreciation and expressing agreement. There were no instances of participants expressing disagreement in either classroom in the warm-up task.

Figure 51 shows a post from the warm-up to illustrate examples of how the different types of social presence are expressed in the warm-up task from one of the learners in classroom 1, Marta in reply to posts from Miriam and the teacher.

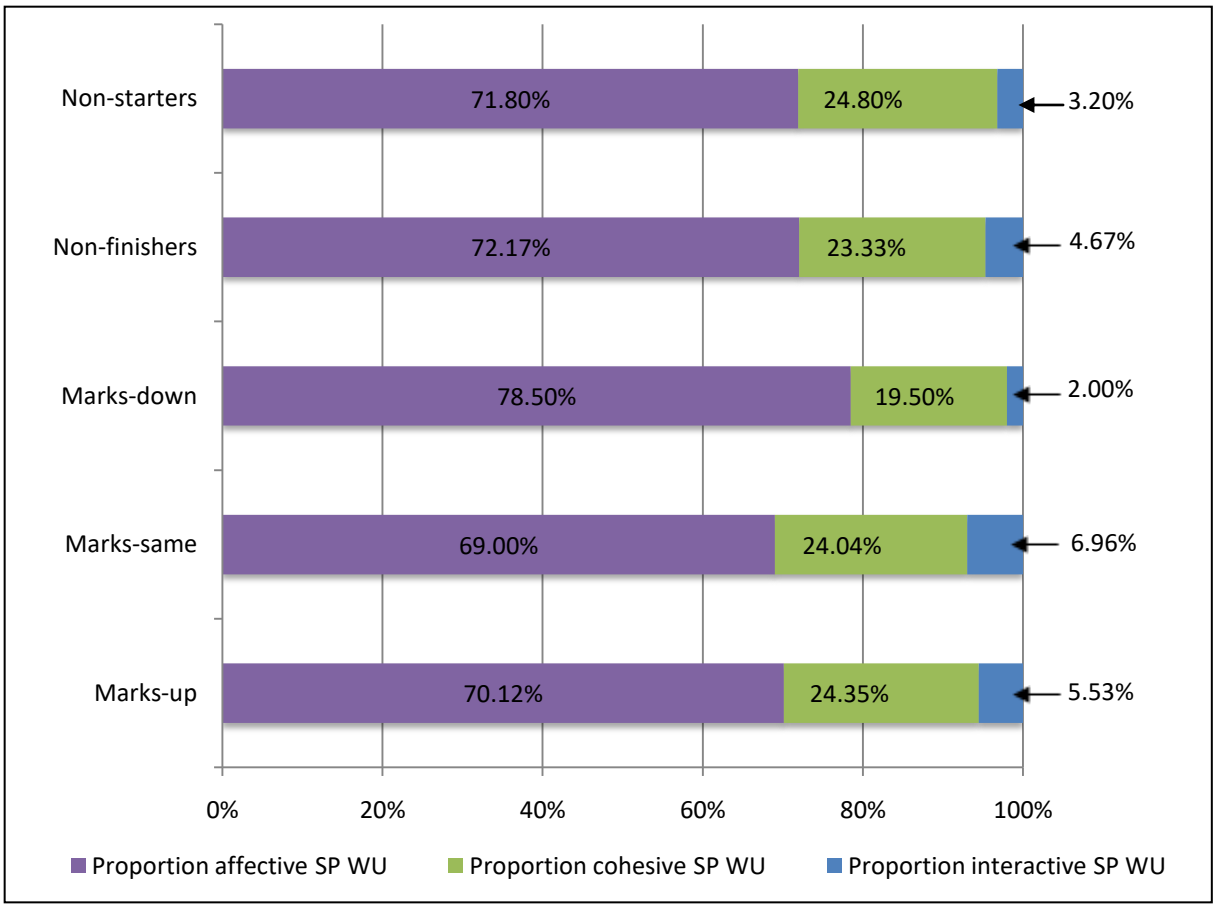
Figure 51. Post 1wu030201 coded for social presence

Post: 1wu030201 (from Marta, in reply to Miriam and the teacher)		**Affective**	**Cohesive**	**Interactive**
L35 L36 L37 L38 L39 L40 L41 L42 L43 L44 L45 L46	Hi everybody, I've just seen these messages. Well, in fact, Mauritania is not so far from the place I was born, Las Palmas. Just one hour and 30 minutes by airplane! That's why we become here. Before I was in Benin next to Nigeria... and that's was really really far... not only in km, also in relation with the culture and with the way of life... but it was a nice experience that I miss a lot. Bests	**Self-disclosure:** the place I was born, Las Palmas. // That's why we become here. // Before I was in Benin // but it was a nice experience // that I miss a lot. **Expressing value:** that's was really really far // it was a nice experience **Expressing emotions:** I miss a lot **Emoticons, punctuation:** !	**Phatics, salutations:** Hi everybody // Bests **Inclusive pronouns:** everybody	**Referring to others' messages:** I've just seen these messages.

As we can observe in Figure 51, Marta's post contained several examples of different indicators of affective social presence: she self-disclosed (e.g. in lines 37–38) and she used an exclamation mark in line 39 to stress how close 'Mauritania' is from where she was born in Las Palmas. Marta also expressed value (e.g. in line 42) and emotion (in line 45). In terms of cohesive social presence, she opened and closed her post and also used the inclusive pronoun "everybody". Finally, she expressed interactive social presence by referring to the previous messages in the thread from Miriam and the teacher (in line 36).

We also compared the proportions of the three types of social presence (affective, cohesive and interactive) in the warm-up task, according to marks progression groups. Figure 52 shows these results.

Figure 52. Proportions of social presence categories for all marks progression groups



As we can observe in Figure 52, the non-starters expressed over 70% of their social presence with affective indicators and 25% with cohesive indicators. The learners in this group used a very small amount of interactive indicators in this group. The results for the non-finishers group are almost identical to those for the learners in the non-starters group. The slightly higher rate of interactive

social presence is perhaps crucial though, as interactive social presence indicates explicitly that participants are relating their contributions to others' posts specifically, by referring to the content in those posts, and asking them questions, expressing agreement or complimenting or appreciating what they wrote. As we saw in the results for participation earlier, the non-finishers' results reflected the fact that at the start of the course, these learners probably had every intention of continuing and completing the course. For the marks-down group, the results are very similar to the previous two groups of learners but they use a larger proportion of affective social presence instead of cohesive or interactive social presence. When we look at the marks-same group, we can observe that as well as the interactive category representing 7% of the instances of social presence, affective social presence represents 69%, while the use of cohesive social presence is similar to the non-starters group. The marks-up group has almost identical results to the marks-same group and it is only the marks-down group that seems to be slightly different in terms of lower interactive social presence. It will be interesting to observe if the learners in the marks-down group change the types of social presence they use in their forum posts in later work in the forum and we address this issue in case study 2 in chapter 6.

5.4 Discussion about Case Study 1

The findings presented in this case study have shown that there are differences in terms of task-in-process between how two separate groups of participants carry out the same warm-up task. We have identified differences between the two classrooms in terms of how much they post, how they interact and the way they express themselves. In both classrooms, the participants are working on a task which is designed to support the establishment of a learning community which should have a positive impact on learning on the course (Dawson, 2006), especially if they feel they are able to build closer relationships with each other and their teacher (Birch and Volkov, 2007). However, the different classrooms realise the task in different ways, which seems to confirm the findings of Alberth (2011) in that students in identical learning environments with the same teacher react differently. Classroom 1 showed higher mean scores for the number of words per participant and for the proportion of days they read each other's posts. On the other hand, the participants in classroom 2 posted a higher mean number of posts, they received a higher mean number of responses from others and these both had a positive impact on the levels of interaction. In this sense, the higher level of participation may be an indicator of a more effective learning environment (Fulford and Zhang, 1993). Furthermore, we have also seen that the average thread length and thread depth in classroom 2 were higher, which according to Hew and Cheung (2008), may be evidence of a more interactive forum in this classroom. We also found higher social presence density in classroom 2 and in terms of the types of social presence, classroom 2 showed higher levels of

affective social presence, which according to Lambert et al. (2017), are reflections of learners' emotional responsiveness. Higher levels of affective social presence are believed to be essential in order for group cohesion to occur (Vaughan and Garrison, 2006) and so when we consider all of the social presence results together with the interaction results, the participants in classroom 2 seems to have been more successful at creating a strong sense of community. Whether this is the reason for a higher proportion (82%) of the learners in classroom 2 maintaining or improving their marks than in classroom 1 (71%) is impossible to claim with any certainty but our findings seem to show that the warm-up task is an essential part of the course.

We used measurements of how learners' marks progress from the first assessed writing task to the final assessed writing task and grouped learners accordingly into five marks progression groups (MPGs). We then compared behavioural and emotional engagement between the different MPGs and found certain differences although these were not always consistent when comparing between the two classrooms. However, there does seem to be an overall tendency that students who participate more in the warm-up do better in terms of marks progressions over the semester and these learners either maintain their marks or increase them over the course. On the other hand, there is also evidence to confirm that neither behavioural engagement nor emotional engagement in the warm-up task alone are guarantees of individual learners completing the course and maintaining or improving their marks. This is in line with Henri (1992) and Lowes, Lin and Wang (2007) who claim that participation levels alone are not accurate predictors of learning gains.

We have also discovered that learners who did not finish the course participate more than their visible participation alone indicated: in addition to participating actively by posting to the forum, they also participated less visibly by reading their classmates' posts and in some cases, they posted or read posts more than learners who went on to complete the course. There are two possible explanations for this. Firstly, it may be that after reading a high proportion of classmates' posts in the warm-up task, some learners feel they do not have the level to continue or complete the course, and as a result, decide to leave. The issue of student retention is crucial for all higher education institutions, but particularly so for distance courses (Berge and Huang, 2004), where learners may suffer from feelings of isolation unless course design and teacher strategies are used to create and maintain a strong sense of community. Every effort needs to be taken to maximise student retention in terms of course design, individual attention and follow-up by teaching and support staff. However, reasons why learners drop out vary but are not necessarily related to the course itself, but instead due to personal reasons such as a change of job or family circumstances, among others (Aydin, Öztürk, Büyükköse, Er and Sönmez, 2019; Grau-Valldosera and Minguillón, 2014). A second

possible explanation for some learners not taking part fully in the course warm-up task is that they do not understand the point of, or agree with online discussion tasks, as a way to foster their language development. This latter point is in line with what Lockwood (1995) refers to as learners' cost-benefit approach to taking part in tasks.

Another interesting result is that the number of posts participants receive in the warm-up task does not seem to be directly related to how learners will do in the rest of the course. In this sense, the non-finishers and marks-down groups in classroom 1 received a very similar mean number of posts as the marks-up group learners in this classroom. This may be explained by the fact that this warm-up task takes place at the very start of the course when learners are still finding their way in the virtual learning environment.

In terms of emotional engagement, learners that did not complete the course (non-starters and non-finishers) expressed high levels of social presence in the warm-up task and so emotional engagement does not seem to be a predictor of what learners will do later in the course. However, higher levels of social presence were shown by the marks-same and marks-up groups in the warm-up task and this may be an indication of their higher levels of engagement. What is noteworthy is that these learners seem to be expressing a slightly larger proportion of interactive social presence than the learners in the other three groups. In this sense, explicitly showing interaction by using interactive social presence (by referring others' messages, asking questions, showing appreciation, expressing agreement and disagreement) seems to be something that learners who will improve over the course do slightly more than other learners from the outset. This follows Alberth's (2011) point that some learners feel more at ease in online environments, while for others the situation may negatively affect their motivation to participate and share ideas with peers. Participants in both classrooms made use of emoticons and used unconventional punctuation to express affective social presence and this is in line with Kol and Schcolnick's (2008) and Delahunty's (2018) whose studies reveal that asynchronous discussion forum transcripts contain a combination of written and spoken registers, and also Halvorsen's (2012) work, which posits that emoticons are used to express a range of meanings, including emotions.

In the next chapter, we narrow our focus in terms of the number of participants. We will analyse the learners in one of the classrooms (classroom 1) but we extend our analyses in terms of the number of tasks. We will look at learners' cognitive, behavioural and emotional engagement in the warm-up, the first assessed task and the final assessed task in the discussion forum.

Chapter 6 Case study 2: Learner Engagement across Three Tasks

Participation in learning activities is considered to be an essential aspect of behavioural engagement (Schindler et al., 2017) and higher rates of social presence are deemed to be essential for a successful online dynamic (Zhao, Sullivan and Mellenius, 2013). However, we have seen in our first case study in chapter 5 that the proportion of learners who completed the course was higher in classroom 1 than in classroom 2, despite the fact the learners in classroom 1 sent fewer posts and expressed lower levels of social presence. In case study 2, we seek to understand how learners' behavioural and emotional engagement evolve over the course for the learners from classroom 1. We also consider the extent to which learners' behavioural and emotional engagement are related with their cognitive engagement, as measured by learners' marks progressions. We will compare measurements for the three dimensions of engagement for the warm-up task, the first assessed task and the final assessed writing task. We begin by discussing the tasks which the learners worked on.

6.1 The Tasks Analysed in Case Study 2

The task instructions for the three tasks are given in chapter 4 (see section 4.2.3). Table 16 shows an overview of the principal characteristics of each task.

Table 16. Principal characteristics of the 3 tasks analysed in case study 2

	Warm-up task	CA2 (first assessed task)	CA6 (final assessed task)
Topic	Personal	Learning online	Art ownership
Word length	40–60 + replies	150–200 + replies	150–200 + replies
Genre	Not specified, but online correspondence	Essay	Essay
Assessed	No	Yes	Yes
Required contribution	No	Yes	Yes
Scheduled duration of task	6 days	7 days	8 days
Actual duration of task	10 days	10 days	16 days

As displayed in Table 16, the topics for the three tasks were all different. In the warm-up task, learners were asked to share information about themselves and then read other participants' posts and reply to two of them. The word limit was shorter in this task than in the two assessed tasks. The topics for the other two tasks were online learning and art ownership. The warm-up task instructions were posted to the classroom forum by the teacher the day before the course began. The instructions for the two assessed tasks were published in the classroom at the start of the course

and at the start of the scheduled task period, the teacher directed students to them. Before learners began writing, they were instructed to work on self-correcting exercises which focused on lexical and grammatical structures related to the topics.

The two assessed writing tasks consisted of three (in the first assessed task) and four (in the final assessed task) essay question options respectively for learners to choose from. For the first assessed task (CA2), the vast majority (24 out of the 27) of the learners who participated wrote about the first question: "Why did you choose to study online and how does it differ from your previous learning experience?" Nobody chose the second question and 3 learners chose the last option "Can you learn absolutely anything online?". The first question explicitly invites learners to share personal experiences with online learning; the other option invites learners to share personal opinions, backed up with examples from their experience. There was a wider range of options chosen for the final assessed task (CA6): 9 learners wrote about the first option "Entry fees for museums are completely justified", 10 learners chose the second option "Art work should always be kept in its country of origin", 3 learners chose the third option "Paying a lot of money for an original piece of art is a waste of money when you can buy a copy for a fraction of the cost", 1 learner wrote about the final option "Art that offends a section of society should be censored" and 1 learner chose to write about a different topic, although as it still related to art, it was accepted and evaluated.

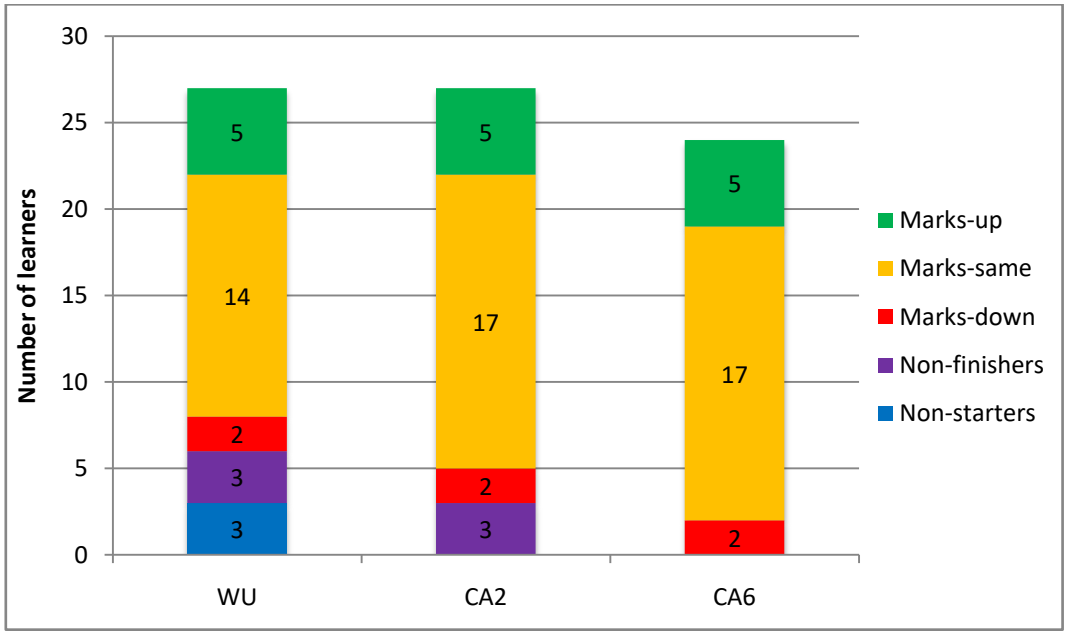
Both assessed tasks had a second part in which they were asked to read classmates' essays and reply to at least two of them. Learners were given a similar rubric in both tasks to base their replies on: they had to say whether they agreed with the writer's opinion and why, and to offer advice about learning online (for CA2) or to suggest ideas for further reading about the topic chosen (for CA6). The two tasks gave learners the opportunity to share their views both in the main essays and in their responses to classmates and both tasks also allowed learners to express emotional engagement through the various types of social presence. It is interesting to note that of the three learners who chose to answer the third question for CA2, two were in the marks-down group and one was in the marks-same group. Apart from the one learner in the marks-same group who chose the third question, the rest of the learners in the marks-same group chose the first question. All learners in the marks-up group chose to write about the first question. However, for CA6, there was no discernible pattern or connection between the question chosen and the marks progression group. The two learners in the marks-down group chose different questions to write about, the marks-same and marks-up group learners chose between questions 1, 2, 3 and the learner who wrote about a slightly different topic was in the marks-up group.

The final row in Table 16, “Actual duration of the task”, is included because this information is used when calculating the proportion of possible days when learners could read posts. As we can see, the final task ran over the scheduled duration of the task by a further 8 days. The reason for this is that the final assessed task was scheduled to finish just before the Christmas break. The extra days ran into this holiday period and we often find learners making the most of the holiday period to catch up with any pending work for the course.

6.2 Cognitive Engagement across Three Tasks

The first phase of analysis for this case study consisted of grouping learners according to how their marks changed over the course so that we could filter their results for the different measures for behavioural and emotional engagement according to the marks progression groups that learners were in. Figure 53 shows the number of learners who participated actively in each task by posting at least one contribution.

Figure 53. Number of actively participating learners across 3 tasks according to MPGs



As we can observe in Figure 53, there were three learners in the non-starters group who took part in the warm-up (WU) task but who posted nothing to the forum after this. They are not counted in our behavioural and emotional engagement analyses for the two assessed tasks. Similarly, the three learners in the non-finishers group who took part in the first assessed task but posted no work for the final assessed task are not counted in behavioural and emotional engagement analyses for the final assessed task. The learners in the marks-down group submitted work for all three tasks; three learners in the marks-same group did not take part in the warm-up task and the five learners in the marks-up group participated in all three tasks.

As we discussed in chapter 5, there are two possible reasons for learners choosing not to take part in the unassessed warm-up task; firstly, they may have enrolled a few days after the course started and therefore decided it was too late for them to take part, or secondly, they may have decided that they did not want to take part in the task and focus their attention on the assessed tasks, following what Lockwood (1995) suggests is a more cost-oriented approach. It is interesting to note that all of the learners in the marks-up group did take part in the warm-up task.

6.3 Behavioural Engagement across Three Tasks

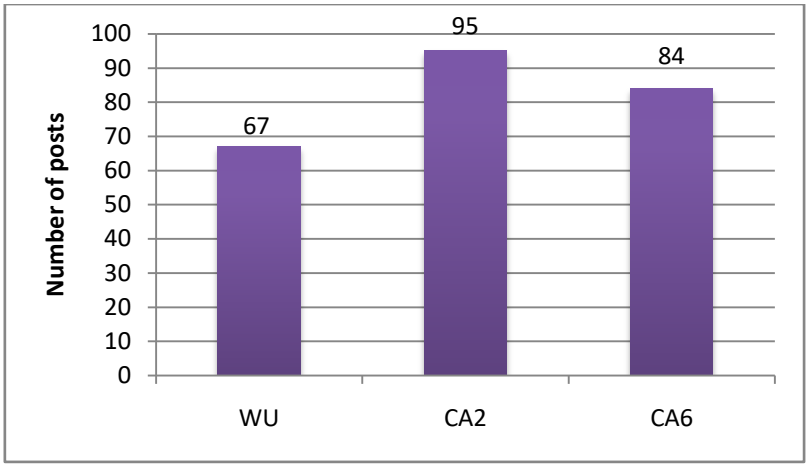
As detailed in chapter 4, in order to avoid skewing the subsequent analyses by including learners who did not participate at all in a particular task, for each marks progression we selected learners who took part in each task at least once and calculated the means and standard deviations of students for the different measures of participation and interaction (behavioural engagement) and social presence (emotional engagement). This means that the calculations are based only on the active participants for each task. The findings are presented and discussed in the following sections.

6.3.1 Participation.

The results in the following sections refer to the measures for participation in the warm-up task for all participants who took part in tasks at least once. The participants included in the results for the posts read vary slightly because we wanted to include less visible engagement from learners who did not actively participate; therefore, we included all participants who read at least one post.

There were a total of 67 posts sent to the forum for the warm-up task (WU), 95 posts for the first assessed task (CA2) and 84 posts for the final assessed task (CA6) as shown in Figure 54.

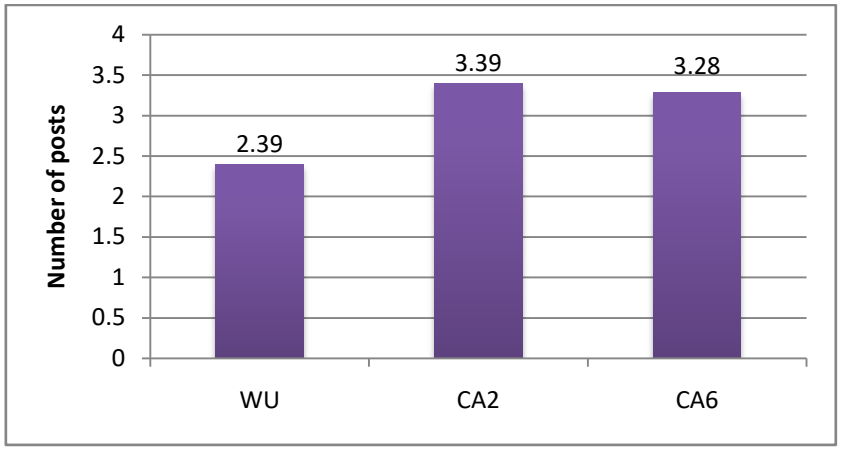
Figure 54. Total number of posts sent to the forum across 3 tasks



The increase in the total number of posts that we can observe in Figure 54 from the warm-up to the first assessed task represents a 41.79% increase, and the decrease from the first assessed task to the

final assessed task represents an 11.58% decrease. However, as the number of active participants in each task varied, we need to adjust the numbers to make a fair comparison; this was 28 for the warm-up and the first assessed task, and 25 for the final assessed task, including the teacher. Taking this difference into account, Figure 55 shows the mean number of posts for active participants across the three tasks.

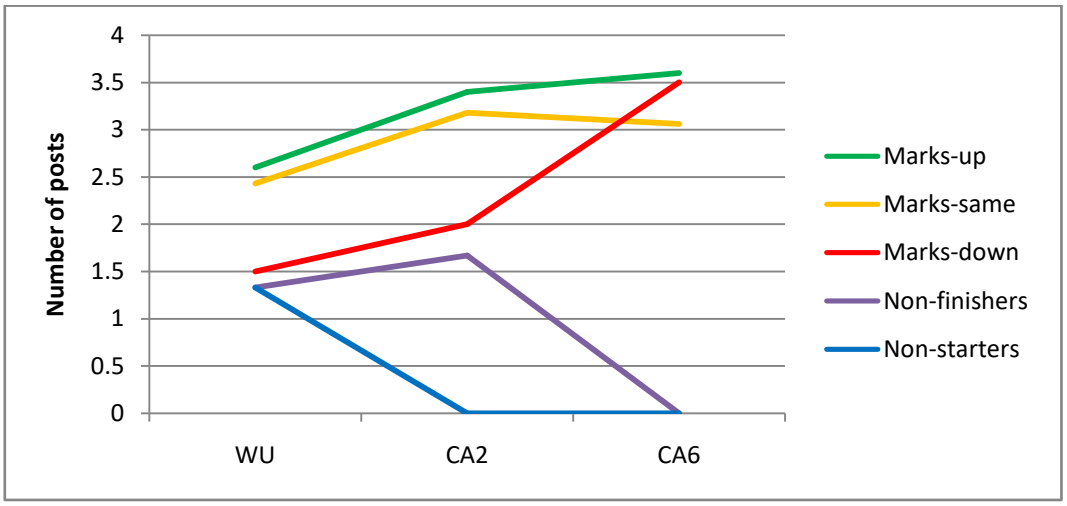
Figure 55. Mean number of posts across 3 tasks



As we can observe in Figure 55, participants in the warm-up posted an average of 2.39 posts (*SD = 1.68*); for the first assessed task this increased to 3.39 posts (*SD = 2.56*) and for the final assessed task this decreased slightly to 3.28 (*SD = 0.68*). The high standard deviation score for the first assessed task indicates a wide variation in the real numbers of posts individual learners posted, but the small standard deviation for the final assessed task indicates a much narrower range. The variation of means of posts for each of the three tasks was similar to the variation for the total number of posts for each task indicated above: the increase in mean posts from the warm-up task to the first assessed task is 41.84%, almost identical to the increase in raw number of posts, but the decrease in mean posts from the first assessed to the final assessed task was 3.24%, so far smaller than the decrease in raw number of posts.

To understand what is happening in each task in more detail, we turn now to the breakdown of mean number of posts according to the marks progression groups. Figure 56 shows the results of the mean scores for each marks progression group for each of the three tasks, warm-up (WU), CA2 and CA6.

Figure 56. Mean number of posts across 3 tasks according to MPGs

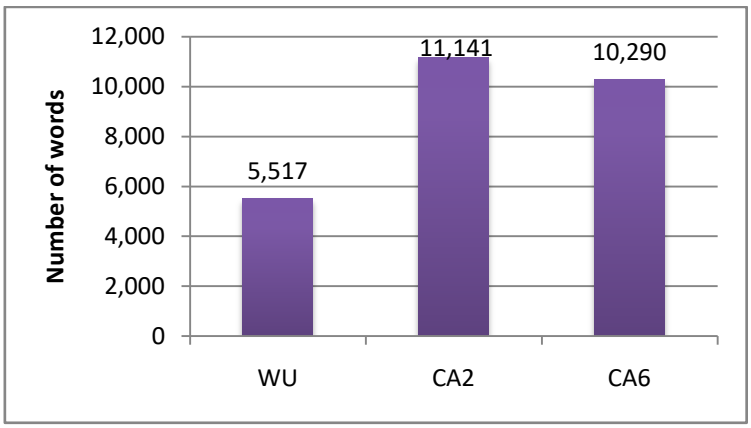


As we can observe, the marks-up group consistently had the highest mean number of posts across all three tasks: 2.6 (*SD = 1.52*) for the warm-up task, 3.4 (*SD = 1.14*) for CA2 and 3.6 (*SD = 0.89*) for CA6. The decreasing standard deviations also indicate that the variation among the learners in this group got smaller across the semester. This is followed by the marks-same group, who had the second highest mean number of posts for the warm-up (*M = 2.43, SD = 1.02*) and the first assessed task (CA2 *M = 3.18, SD = 1.13*); however, this decreased slightly for the final assessed task (CA6 *M = 3.06, SD = 0.43*). The standard deviations went up slightly from the warm-up to the first assessed task but went down considerably for the last assessed task, indicating that the range of posts for these learners was smaller for the final assessed task. On the other hand, the marks-down group had quite a low mean number of posts for the warm-up (*M = 1.5, SD = 0.71*), which increased slightly for the first assessed task (CA2 *M = 2, SD = 1.41*), but then increased sharply to nearly as high as the number of posts from learners in the marks-up group for the final assessed task (CA6 *M = 3.5, SD = 0.71*). The non-starters and non-finishers groups posted the same lowest mean number of posts in the warm-up task (*M = 1.33, SD = 0.58*) and then the non-starters dropped to zero for the other two assessed tasks, whereas the non-finishers group's mean number increased slightly for the first assessed task (CA2 *M = 1.67, SD = 0.58*) before going down to zero for the final assessed task.

Overall, the results for the mean number of posts according to the marks progression groups seem to show that the more learners participate, the more likely they are to show an improvement in marks later in the course. However, the marks-down group results are quite surprising with such a sharp increase in mean number of posts for the final assessed task. One explanation for this might be that those learners realised they were not taking part as actively as others and they therefore decided to increase their level of participation. We would need to ask participants to confirm this hypothesis, but this falls outside the scope of our study.

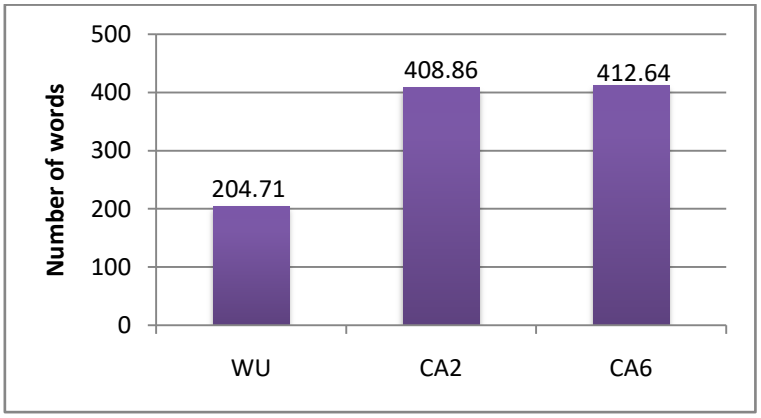
As another measure of participation, the amount of language produced in terms of the word counts in each of the three tasks by each participant was also calculated. Before looking in detail at the word counts for each marks progression group, we recall from Table 6 in section 4.3.1.2 that in classroom 1 there were a total of 5,517 words posted in the warm-up task, 11,141 words posted for the first assessed task and 10,290 words posted for the final assessed task, as shown in Figure 57.

Figure 57. Total number of words produced across 3 tasks



As we can observe in Figure 57, there was more than twice the amount of language produced for the first assessed task than the warm-up task. We can also note a decrease in the amount of language produced for the final assessed task. The difference between the warm-up and the assessed tasks is to be expected, considering that the warm-up task instructions asked learners to post 40-60 words whereas the assessed tasks asked learners to post 150-200 words for the essay part of the two tasks. The decrease in language generated in the final assessed task may be due to the number of active participants, which went down from 28 in CA2 to 24 in CA6. Figure 58 takes into account the number of participants in each task and shows the mean number of words produced for each task.

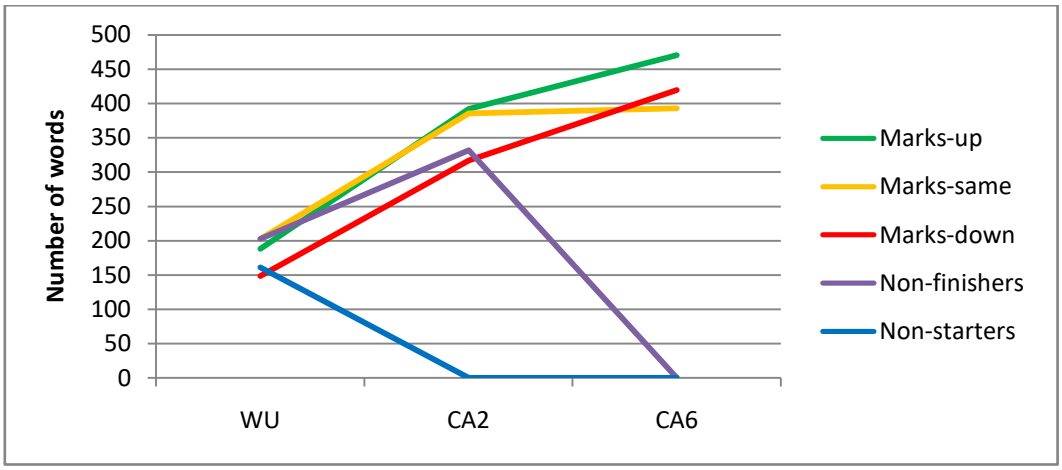
Figure 58. Mean number of words posted across 3 tasks



As we can observe in Figure 58, while there was a significant difference in the amount of language produced between the warm-up task (*M = 204.71, SD = 115.06*) and the assessed tasks (CA2 *M = 408.86, SD = 216.27*; CA6 *M = 412.64, SD = 108.39*), the mean scores show that participants produced slightly more language for the final assessed task than the first assessed task. The standard deviations indicate less variation in the range of number of words produced in the final assessed task compared to those produced in the first assessed task as well.

We turn now to the breakdowns for word counts for the five marks progression groups across the three tasks. Figure 59 shows the mean number of words posted in the three tasks by marks progression group. No analysis of the content of the posts was performed at this stage.

Figure 59. Mean number of words across 3 tasks according to MPGs



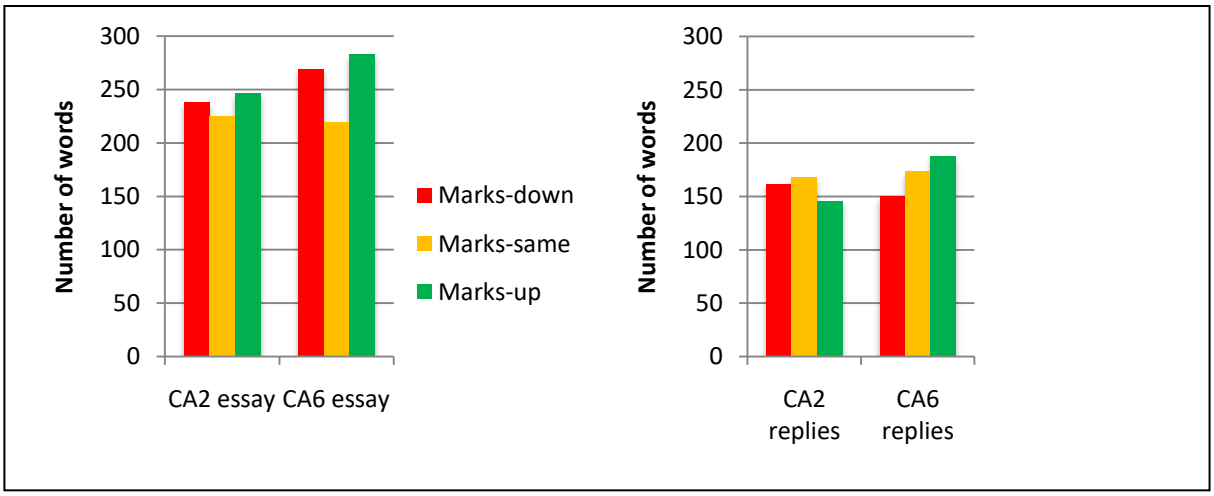
The results displayed in Figure 59 for the different marks progression groups show a similar pattern to the mean number of posts reported for each MPG earlier in this section (see Figure 56). The marks-up, marks-same and marks-down groups all increased their mean scores from the warm-up to the first assessed task and again to the last assessed task. The marks-up group learners' mean scores increased from 188.2 (*SD = 71.96*) to 392.2 (*SD = 82.94*) and then to 470.6 (*SD = 50.47*); the marks-same group mean scores increased from 202.36 (*SD = 102.63*) to 385.71 (*SD = 145.51*) and then to 393 (*SD = 120.06*). The high standard deviations for this latter group indicate a very wide discrepancy among the learners in the marks-same group and the increase from the first assessed task to the final assessed task is much smaller than the previous increase from the warm-up to the first assessed task. The marks-down group increased from 148.5 (*SD = 24.75*) to 317 (*SD = 117.38*) and then to 419.5 (*SD = 129.40*). On the other hand, the non-finishers, who had a mean score for the number of words for the warm-up almost identical to the marks-same group (*M = 202.33, SD = 63.80*), showed a sharp increase up to 331.67 (*SD = 144.24*), but then dropped to zero for the final assessed task as they did not submit any posts for that task. The non-starters group had a slightly higher mean score

than the marks-down group with 161 (*SD = 147.29*) but this dropped to zero for the other tasks as they submitted no posts.

As noted in the previous section, the numbers of learners in the non-starters, non-finishers and marks-down groups were small compared with those in the marks-same and marks-up groups. This makes it difficult to draw firm conclusions when comparing numbers of words posted according to MPGs, but the pattern of behaviour in terms of word counts is quite similar to the pattern for the mean number of posts. That is, the marks-up and marks-same groups mainly have quite high mean scores for the warm-up and first assessed task but the marks-down group shows a sharp increase from the first assessed to the second assessed task. In terms of task-as-workplan, we can see that the instructions regarding word requirements for each task have an impact on the increase in the word counts. The warm-up task asks learners to post 40-60 words in their main post and then follow this up with responses to classmates. On the other hand, the two assessed tasks give learners instructions to post essays of 150-200 words in length and then reply to at least two classmates. All learners who took part in the two assessed tasks increased the amount of language produced. This seems to confirm Rovai's (2007) proposal that learners must be made aware of what is expected of them. What is more, the fact that the learners in the marks-up group show the largest increase between the two assessed tasks in the amount of language produced may be evidence of a link between behavioural and cognitive engagement.

In this case study, we also examined changes in how much language learners in the different groups produced for the first part of the two assessed tasks (the essays) and the replies posted to others for these two tasks. The results are displayed in Figure 60. As the non-starters did not take part in either of these tasks, they were not included and similarly, neither were the non-finishers because they did not take part in the final assessed task.

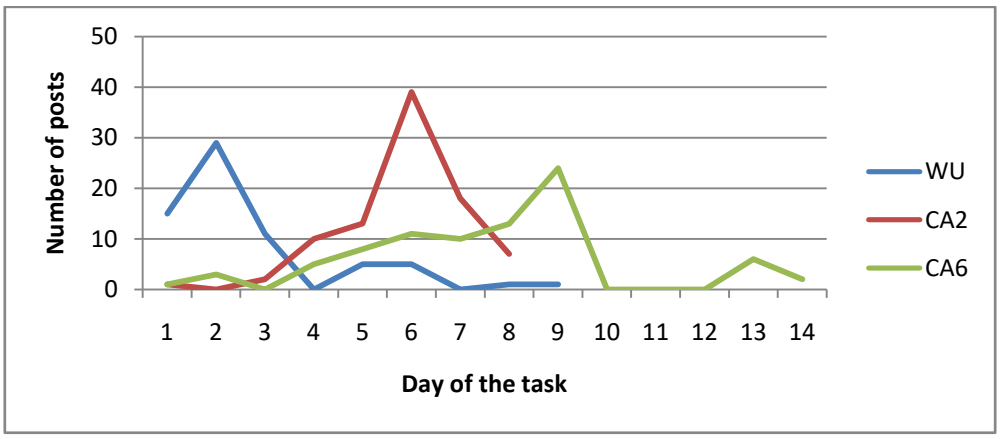
Figure 60. Mean number of words in essays and replies according to MPGs in 2 tasks



Looking at both charts in Figure 60 together, we can observe that the marks-up group showed increasing mean scores in the first and final assessed tasks, both for the essays (CA2 *M = 246.60, SD = 45.03*; CA6 *M = 282.8, SD = 53.09*) and for replies to others (CA2 *M = 145.6, SD = 49.96*; CA6 *M = 187.8, SD = 23.62*). The marks-down group also increased the word count from the first to the final assessed task for the essay from 238 (no SD as there was only 1 learner in this group) to 269.50 (*SD = 41.72*), but their mean score for replies decreased from the first to the final assessed task (CA2 *M = 162*, no SD as there was only 1 learner; CA6 *M = 150, SD = 87.68*). The marks-same group decreased their mean score for the essays from the first (*M = 224.88, SD = 47.41*) to the final assessed task (*M = 219.82, SD = 33.03*) but increased their mean score for the replies (CA2 *M = 168.25, SD =104.91*; CA6 *M = 173.29, SD = 111.66*). Overall, the marks progression groups results indicate that neither the amount of language produced or how students' marks progress over the course are directly related to the number of words students produce over the course. There seems to be a justification here to look in more detail at other measures of participation and interaction for these tasks and also to analyse the content of what learners are writing, as we will do later in this chapter. We now explore the time span when learners took part in the tasks.

The warm-up task and the first assessed task (CA2) were scheduled to take place over a period of 7 days and the final assessed task (CA6) was scheduled to take place over 8 days. Figure 61 shows when participants posted for each of the tasks and it is clearly visible that participants posted the majority of their work at different points in the three tasks.

Figure 61. Time span when participants posted across the 3 tasks

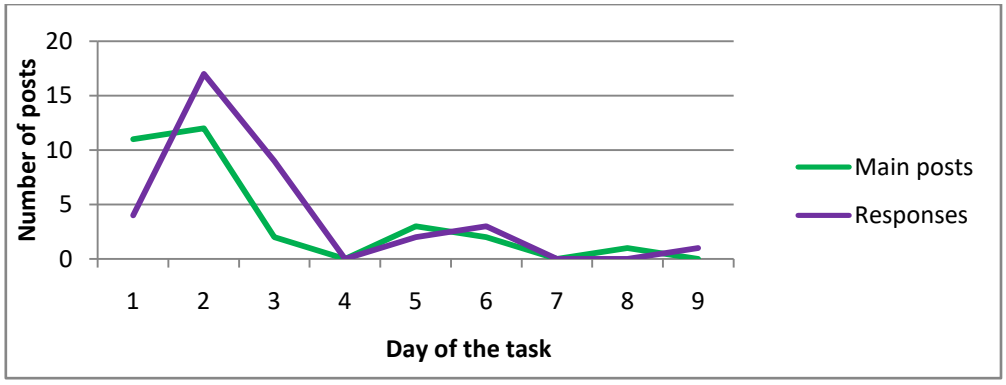


As we can observe in Figure 61, in the warm-up task, participants started posting immediately and then peaked on Day 2. On the other hand, in the first assessed task, only a few participants posted their contributions during the first three days; around 10 took part on Days 4 and 5 and the participation peak took place on Day 6, which was a Sunday. The task continued at a lower rate over

the next two days. For the final assessed task, the posting dynamic changed again: the posting rate was similar to the first assessed task for the first five days, but the posting peak did not happen until Day 9, one day after the scheduled end of the task. This was followed by several days with no participation (these days correspond to the Christmas holidays) and then a few posts were sent on Days 13 and 14.

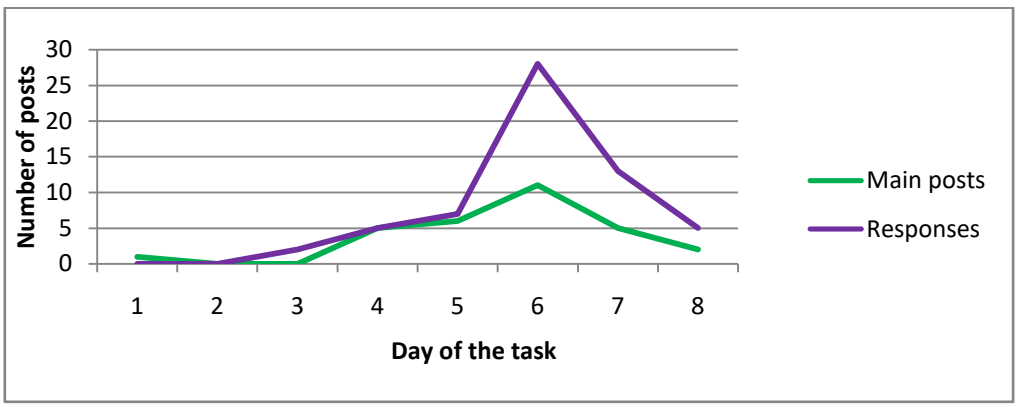
We also recorded when main posts and responses to these were posted for the three tasks. Figure 62 shows when main contributions and responses were posted for the warm-up task.

Figure 62. Time span when participants posted main contributions and responses for the warm-up



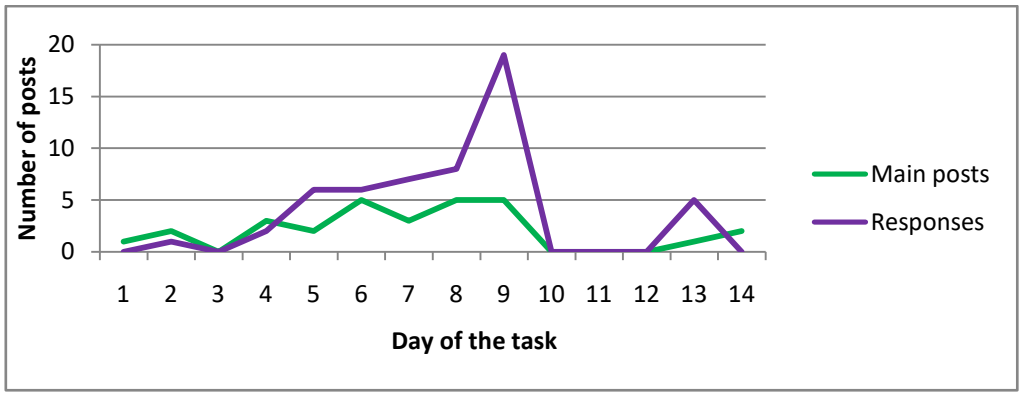
As we can see in Figure 62, there were more main posts than responses on Day 1 of the task, which is natural because the task asked learners first to introduce themselves. The second part of the task asked learners to read other participants' introductions and then write to one or two other classmates with whom they could find something in common and this explains why on Day 2, we see more responses than main posts. This trend continued until Day 5 when there were slightly more main posts than responses. In Figure 63, we can see when participants posted their main posts and responses to others in the first assessed task (CA2).

Figure 63. Time span when participants posted main contributions and responses for CA2



As we can observe in Figure 63, there was only 1 post on Day 1 of the first assessed task. This post was from the teacher, to let learners know where to post their work for this task. Learners did not begin to respond to this until Day 4, when the first main posts from learners were sent. The majority of main posts were sent to the forum on Day 6, which was also the day for the majority of responses to others. As we can see, from Day 5 onwards, there were always more responses posted than main posts. This fits with the task-as-workplan as learners were asked to post one main post and then reply to at least two others. In Figure 64, we can observe when participants posted their main contributions and responses for the final assessed task (CA6).

Figure 64. Time span when participants posted main contributions and responses for CA6

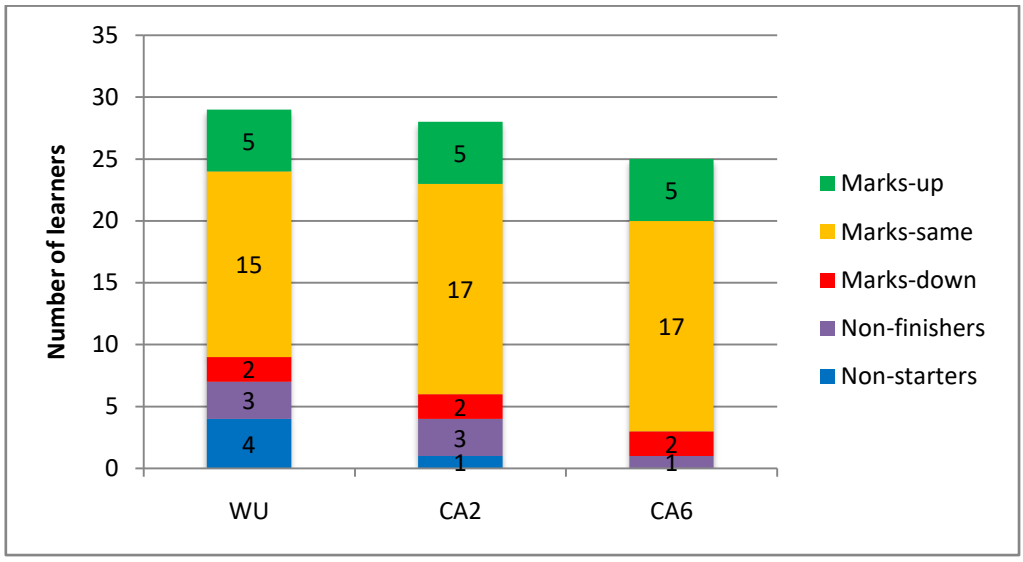


In Figure 64, we can see a similar pattern to that of the first assessed task. Again, there were almost always more responses than main posts. In contrast with the first assessed task though, we can see that there are several days with no activity at all, which as explained above was due to the Christmas holiday period.

If we consider the results for when participants posted to the three tasks together, we can see that these learners seem to take full advantage of the flexible nature of the asynchronous discussion forums. That is, the tasks continued over several days and while there were specific peaks in activity, learners followed the task instructions and completed the tasks. The learners in this study confirm the results in work by Rovai (2001), in the sense that online learning enables learners to take an active part in tasks seven days a week, 24 hours a day.

In order to examine less visible activity from participants, we also examined the proportion of possible days participants read posts for each task. For this part of our analysis, in which our aim is to measure less visible activity from participants, we included participants who read posts on at least one day during each task, regardless of whether they took an active part in the task by posting to the forum or not. Figure 65 shows the breakdown according to marks progression groups for the learners included in the analysis of the proportion of post read dates for each task.

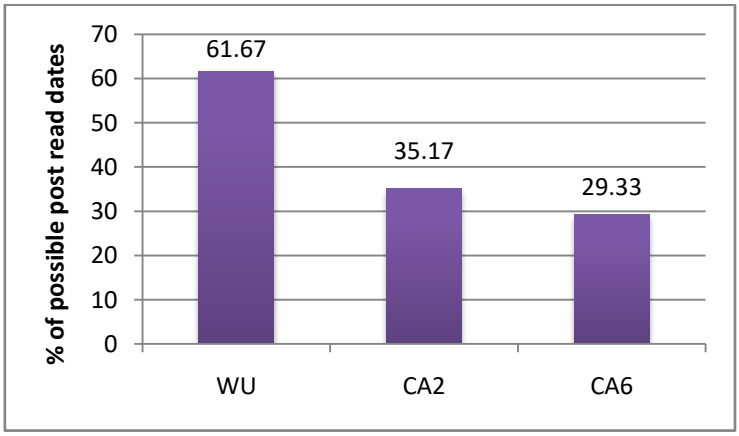
Figure 65. Number of learners who read posts according to MPGs across the 3 tasks



As we can observe, 1 learner in the non-starters group read posts for the first assessed task, despite not taking an active part in it. Similarly, 1 of the non-finishers learners read posts for the final assessed task, despite not posting her own contributions. Also, 1 learner in the marks-same group read posts in the warm-up, despite not posting anything for that task. On the other hand, the marks-up group learners read posts and took an active part in all three tasks. There are two conclusions we can draw from these results: firstly, generally, learners who complete the course read and take an active part in the course by posting themselves, but secondly, some learners may read posts without taking an active part in the task themselves and therefore there is less-visible participation going on.

In terms of the average amount of posts that learners read as the course progresses, we also calculated the proportion of posts read for the three tasks for all participants who read on at least one day of each task. Figure 66 shows these results.

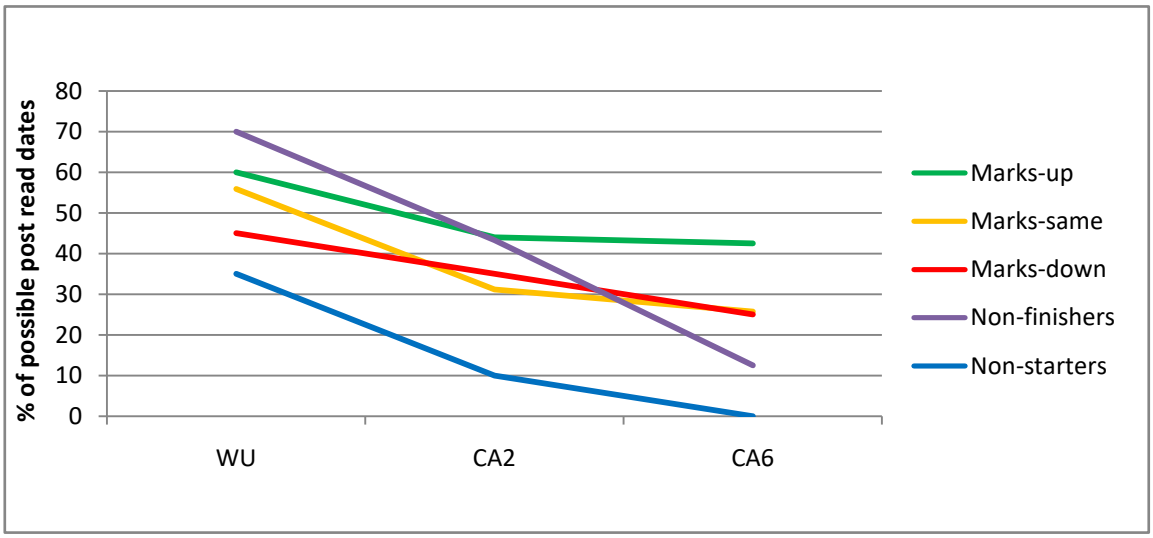
Figure 66. Proportion of days posts were read for all participants who read at least once



As we can observe in Figure 66, the reading behaviour gradually decreased over the course. There are two explanations for this. Firstly, it may be that learners become increasingly cost-oriented (Lockwood, 1995) over the course, as we have discussed previously. In this sense, we consider it crucial that learners are made aware of the reasons for reading one another's posts. Secondly though, learners may be struggling with sustaining their level of motivation. This last point is one of the key challenges which course designers and online teachers face (White, 2007). We would need to ask learners about their levels of motivation at different points over the course in order to confirm this.

In order to obtain a more detailed view of reading behaviour across the course, we also explored our results according to the marks progression groups. Figure 67 shows the results for these.

Figure 67. Proportion of post read dates according to MPGs across the 3 tasks



Looking at the overall trend displayed in Figure 67, we can see that the mean scores regarding post read dates decreased continually over the course for all marks progression groups, although the biggest decrease in all groups except for the non-finishers group is from the warm-up to the first assessed task. Post read dates in the marks-up group decreased from a mean score of 60% (*SD = 25.5*) to 44% (*SD = 20.74*) and then to 42.5% (*SD = 21.78*). The decreasing standard deviations indicate that the range of data was also smaller and the learners in this group were behaving in a more similar way across the course: they read posts on around half of the possible dates while the tasks were ongoing. Post read dates in the marks-same group follow a similar pattern to those in the marks-up group; they showed a mean score of 55.88% (*SD = 31.04*) for the warm-up task which decreased to 31.18% (*SD = 9.28*) for the first assessed task and then decreased again, although less sharply, to 25.74% (*SD = 19.63*). Post read dates in the marks down group followed a steady

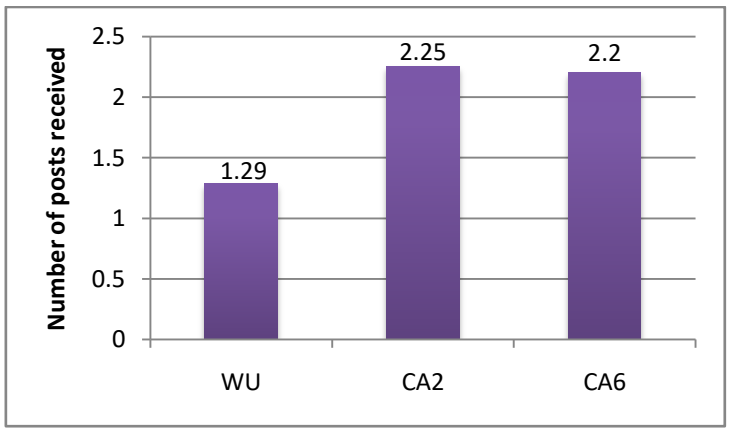
decrease from the warm-up (*M = 45%, SD = 7.07*) to the first assessed task (35%, *SD = 21.21*) and then to the final assessed task (*M = 25%,* no SD as both learners in this group had the same score). Post read dates in the non-starters group had the lowest mean score for the warm-up (*M = 35%, SD = 28.11*) and then went down steeply to 10% (no SD as only one learner) for the first assessed task, before going down to zero for the final assessed task. The most interesting result is found in the non-finishers group, who had the highest mean score for post read dates in the warm-up task (*M = 70%, SD = 10*). However, this group's mean score then went down to 43.3% (*SD = 5.77*) for the first assessed task and again down to 12.5% (there was only 1 case, so there is no measure for standard deviation) for the final assessed task.

We note at this point that the final task continued for an additional 8 days after the scheduled time frame and those days were over a holiday period, so this may account for the decrease in dates that posts were read for the final task, even in the groups who were working on the course until the end. It is interesting to have some data on the behaviour of learners who did not complete the course though, as is the case with the non-starters and the non-finishers. If we can detect learners who are possibly still interested in taking part, we will be able to offer them appropriate support if we understand the reasons for their decreasing reading activity. As we noted when discussing the results for post read dates in case study 1 (see chapter 5), learners who did not read any of their classmates' posts in a task did not post a message for that task either. At the same time, all learners who posted to a task also read a proportion of their classmates' posts.

6.3.2 Interaction.

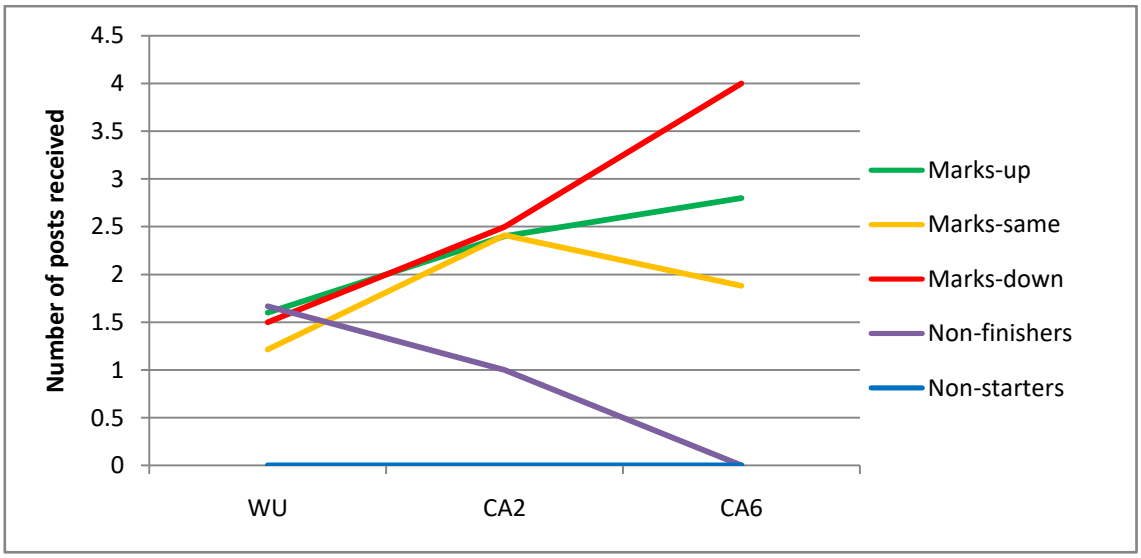
In this section, we report on various measures for interaction across the three tasks. Firstly, we show the number of posts participants received over the course from other participants. Figure 68 shows the overview of the mean posts received by all participants in each task.

Figure 68. Mean number of posts received across the 3 tasks



As we can observe in Figure 68, participants in the warm-up received a mean of 1.29 posts (*SD = 1.36*), whereas for the first assessed task they received a mean of 2.25 posts (*SD = 1.94*) and this went down slightly for the final assessed task to 2.2 (*SD = 1.73*). The higher scores for the two assessed tasks are not unexpected, as learners were instructed to reply to at least two classmates. The standard deviations indicate that the range of posts received is quite wide, so we need to look in more detail at which learners receive posts in order to understand if there is a relationship between posts received and learners' marks progressions. Figure 69 shows the breakdowns of the mean number of posts received by participants in the different marks progression groups for each task.

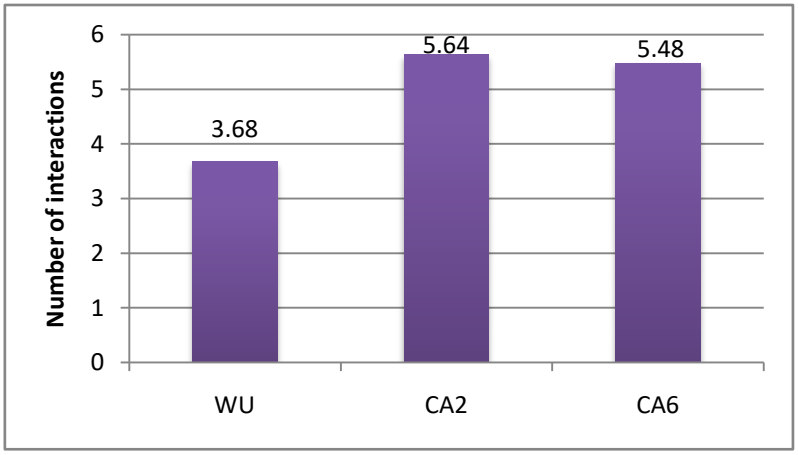
Figure 69. Mean posts received according to MPGs across the 3 tasks



Looking at the results for the different marks groups displayed in Figure 69, we can see that all groups except the non-starters have similar mean scores for the number of posts received in the warm-up task (WU). The non-finishers group had a slightly higher mean score than the other groups with 1.67 (*SD = 1.53*) in the warm-up task but this went down to 1 (*SD = 1.00*) for the first assessed task and dropped to zero in the final assessed task as they did not take part in it. The marks-same group had the second lowest mean score for the warm-up task with 1.21 (*SD = 1.48*), which increased sharply to 2.41 (*SD = 5.59*) for the first assessed task before decreasing to 1.88 (*SD = 1.27*) for the final assessed task. On the other hand, the learners in the marks-up and marks-down groups all received more posts from one task to the next. The marks-up group had a mean score of 1.6 (*SD = 0.89*) for the warm-up task which increased to 2.4 (*SD = 1.95*) for the first assessed task and then increased again for the final assessed task to 2.8 (*SD = 2.05*). Similarly, the marks-down group had a mean score of 1.5 (*SD = 2.12*) for the warm-up task which increased to 2.5 (*SD = 2.12*) for the first assessed task, and this again increased to 4 (*SD = 4.24*) for the final assessed task. The high standard deviation for the marks-down group, together with the fact that this group consisted of very few

learners makes it is difficult to draw conclusions for the marks-down group, but the figures for the rest of the groups do seem to imply that for it to be more likely for learners to continually improve their marks over the course, they need to receive posts from other participants. We will now consider the combination of posts sent plus posts received by showing the results of the total number of interactions for all participants, including the teacher, for the three tasks. Figure 70 shows these results.

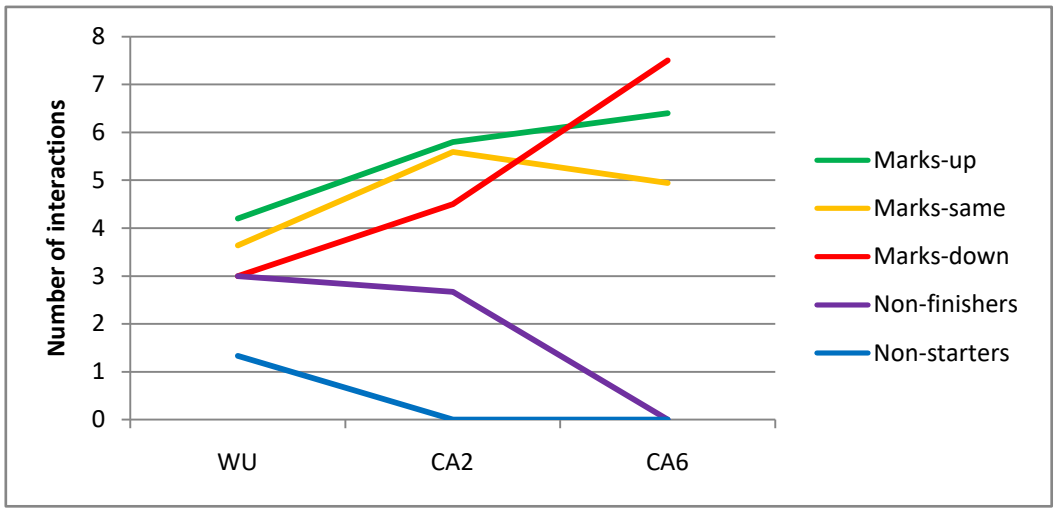
Figure 70. Mean number of interactions across the 3 tasks



As we can observe in Figure 70, participants had the highest number of interactions in the first assessed task (*M = 5.64, SD = 3.31*). There were slightly fewer interactions in the final assessed task (*M = 5.48, SD = 2.10*) and the warm-up task had the lowest mean score for interactions (*M = 3.68, SD = 2.58*). Assessment seems to play a crucial role in determining the level of interaction, at least in the context of our study. The task instructions for all three tasks ask learners to post and then reply to one or two other participants (in the unassessed warm-up task) and at least two classmates (in the two assessed tasks) and so we would expect to find similar levels of interaction across the three tasks, but this is not the case. Learners seem to follow the instructions more closely when the tasks are assessed.

Looking more closely at the rate of interaction among the learners in the different marks progression groups, we can observe in Figure 71 that the marks-up group had the highest mean scores for both the warm-up task (*M = 4.2, SD = 2.17*) and the first assessed task (*M = 5.8, SD = 2.59*) and they continued to increase their rate of interaction for the final assessed task (*M = 6.4, SD = 2.88*), although in this latter case the marks-down group outperformed them.

Figure 71. Mean number of interactions according to MPGs across the 3 tasks



The results for the marks-same group indicate slightly lower interaction with 3.64 (*SD = 2.21*) for the warm-up and 5.59 (*SD = 2.58*) for the first assessed task before decreasing for the final assessed task to 4.94 (*SD = 1.39*). The most surprising result is for the marks-down group who had a mean score for the warm-up task of 3 (*SD = 1.41*), 4.5 (*SD = 0.71*) for the first assessed task, before increasing sharply for the final assessed task to 7.5 (*SD = 4.95*). The non-finishers had the same mean score as the marks-down group for the warm-up task (*M = 3, SD = 1.73*), but this decreased slightly to 2.67 (*SD = 1.53*) for the first assessed task, before dropping to zero for the final assessed task, when they did not take part at all. The non-starters had the lowest mean score for the warm-up (*M = 1.33, SD = 0.58*) before dropping to zero as they did not continue with the course. The results seem to show that learners who do better in terms of marks improvement are involved in more interactions and this may be a contributing factor to them completing the course.

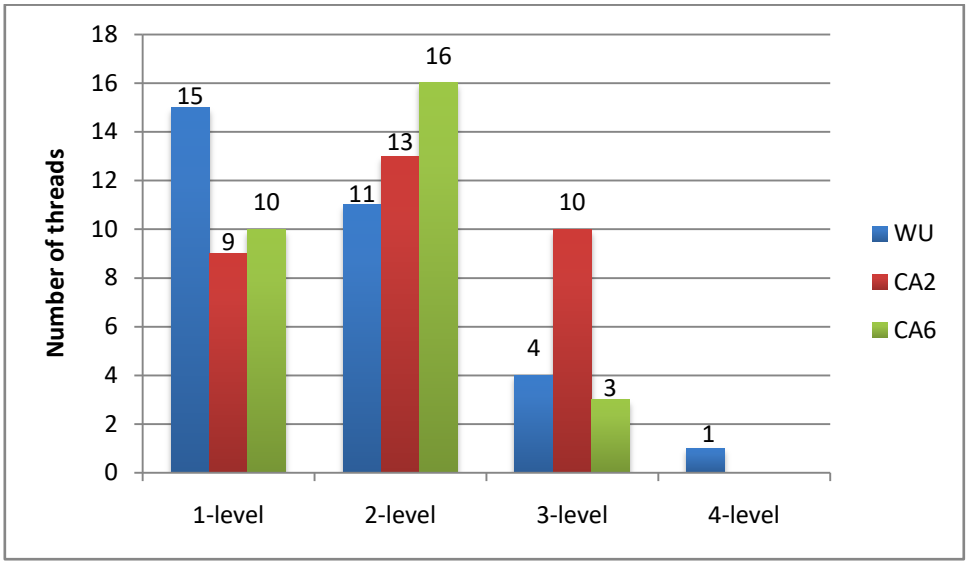
As another way of understanding the different levels of interaction, we compared the threading characteristics for each task. Firstly we consider the length of threading, which is calculated by taking the total number of posts for each task and dividing this by the total number of discussion threads for the corresponding task. The results are shown in Table 17.

Table 17. Thread length across the 3 tasks

	Posts	Threads	Thread length average
WU	67	31	2.16
CA2	95	32	2.97
CA6	83	29	2.86

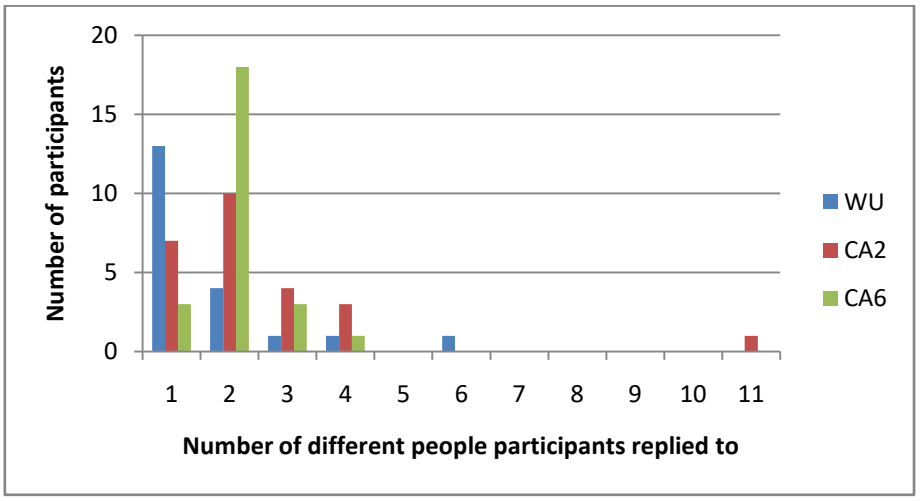
As we can observe in Table 17, both assessed tasks had longer threads than the warm-up task, with the first assessed task having slightly longer threads than the final assessed task. Figure 72 shows details regarding the depth of threading in the three tasks. A 1-level thread refers to a post which has no replies, a 2-level thread refers to a thread with at least one direct reply to a first-level post, a 3-level thread refers to a thread which contains at least one reply to a second-level post, and a 4-level thread refers to a thread which has at least one reply to a third-level post.

Figure 72. Depth of threads across the 3 tasks



We can observe that the number of "orphan" posts (first-level posts which receive no replies) went down after the warm-up task. There was a steady increase in the number of two-level threads, and the number of three-level threads increased considerably from the warm-up to the first assessed task, before dropping back down again for the final assessed task. There was only one four-level thread in this forum and that was in the warm-up. These results seem to indicate that participants interacted the most in the first assessed task. If we consider these results in relation to those of Hew and Cheung (2008), who claim that threads should contain at least 6 levels to be deemed evidence of quality interaction, our results are disappointing. However, the increase in 2-level and 3-level threads does seem to confirm our other results for interaction: participants interacted more in the two assessed tasks than in the warm-up task and of the two assessed tasks, they interacted more in the first. We also consider the number of different people participants reply to across the three tasks. The results are displayed in Figure 73.

Figure 73. Number of different people participants replied to across the 3 tasks



In the warm-up task, participants replied to between 1 and 6 different participants, with a mean of 1.7 (*SD = 1.3*). In the first assessed task, they replied to between 1 and 11 different participants, with a mean of 2.58 (*SD = 2.04*) and in the final assessed task, participants replied to between 1 and 4 different participants, with a mean of 2.08 (*SD = 0.64*). Figure 73 also shows that, while in the warm-up task, 13 participants interacted with one other person, this dropped steadily for the first and final assessed tasks. On the other hand, there was a sharp increase in the number of participants who interacted with two, three or four different people from the warm-up to the first assessed task and this increased again in the final assessed tasks for those who interacted with two other people. The results here seem to confirm what we saw in the threading characteristics: both assessed tasks show more interaction than the warm-up task, but the level of interaction was at its highest in the first assessed task.

6.4 Emotional Engagement across Three Tasks

In this section, we will present the findings and analyses of social presence in the three tasks as a way of measuring learners' emotional engagement. The data in the corpus was coded for the three social presence categories (affective, cohesive and interactive) using Satar and Akcan's (2018) coding chart shown in Table 10 in chapter 4. We will provide the results for social presence density, first for each task and then for the different marks progression groups for each task. We will then explore the types of social presence (affective, cohesive and interactive) that participants in each classroom used before comparing the types of social presence learners in the different marks progression groups expressed. Our objective is two-fold. First we want to unveil the amount of social presence in each task and also understand the types of social presence which are used. Then we seek to consider whether the amount and types of social presence in each task are related to the degree of

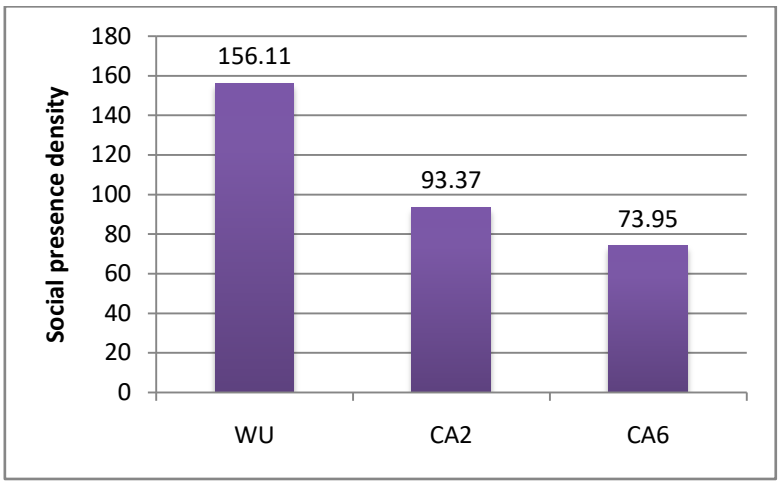
language development learners showed and if they are significant for their marks progressions over the course.

In terms of task-as-workplan, the warm-up task instructions encourage participants to get to know one another and therefore we would expect to find high levels of social presence in forum posts for this task. In the results for social presence for case study 1 (see chapter 5), we compared between two groups of learners, but in this case, we explore social presence in one group of learners and relate the results between three tasks. The two assessed tasks encourage learners to share their experiences and opinions and to engage with what others write but the primary objectives of these tasks are different from the warm-up task and this may affect the level of social presence. Also, the three tasks take place at different points over the course and, for this reason, we may also find differences in the types of social presence, particularly when we look at the final assessed task which takes place in the last weeks of the course. Other researchers (Swan, 2002, 2003; Swan and Shih, 2005; and Vaughan and Garrison, 2006) note that affective, cohesive and interactive social presence levels can vary over time and we will consider our results in relation to theirs. This will be followed by presenting breakdowns of the three categories of social presence across the three tasks.

6.4.1 Social presence density.

Social presence density is calculated by dividing the instances of social presence by the word count and then multiplying the result by 1000. The results for social presence density for the three tasks are shown in Figure 74.

Figure 74. Social presence density for all active participants across the 3 tasks

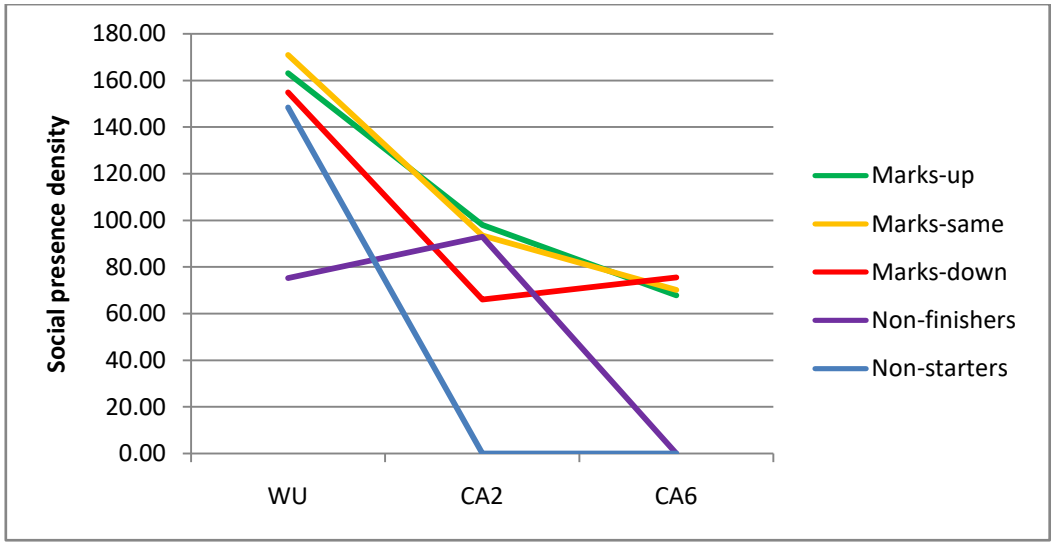


As we can observe in Figure 74, the task with the highest level of social presence was the warm-up (WU), with a mean score of 156.11 (*SD = 54.56*). This is logical if we bear in mind the nature and objective of the task: learners had to get to know one another and the teacher by introducing

themselves, asking questions and sharing information about themselves. The mean score for the first assessed task (CA2) was 93.37 (*SD = 25.38*) and the mean score for the final assessed task (CA6) was 73.95 (*SD = 26.27*), so there was a marked decrease in social presence levels in the assessed tasks compared to the warm-up task. The nature of the assessed tasks is the most likely reason for this, in that they require learners to post essays for the first part and while these may include learners' opinions and experiences, they may also consist of expressions which are factual. The difference between the scores for the first and last assessed tasks may be due to the specific questions in the tasks too, as discussed at the beginning of this chapter (see section 6.1). For CA2, the three options learners could choose from were all written in the second person, inviting learners to give their opinions and share their personal experience. Of the three questions, the first was the most likely to involve learners expressing social presence as it specifically asked about learners' personal experience, whereas with the other questions this was merely implied. For CA6, each of the four questions asked learners to consider a statement of opinion and discuss that. While they were encouraged to express their own opinions too, their essays may have been primarily focused on discussing the topic in an objective way, weighing up the arguments for and against the opinion statements in the questions.

We will now explore how the different marks progression groups compared in terms of social presence density across the three tasks. The results are shown in Figure 75.

Figure 75. Social presence density according to MPGs across the 3 tasks



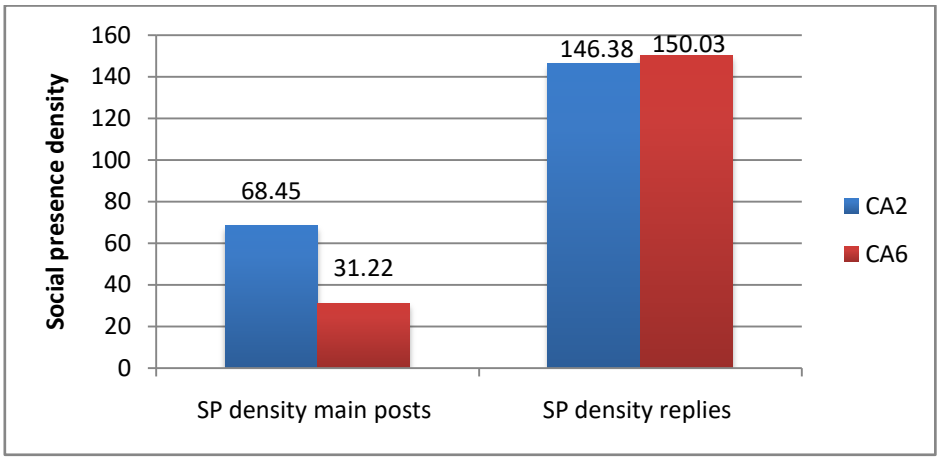
As we can observe in Figure 75, all marks groups except for the non-finishers showed their highest level of social presence density in the warm-up, which is consistent with the overall findings presented in Figure 74. In the warm-up task, the marks-up group had a mean score of 163.08 (*SD = 40.12*), the marks-same group had a mean score of 170.93 (*SD = 59.06*), the marks-down group had

a mean score of 154.86 (*SD = 40.09*) and the non-starters had a mean score of 148.31 (*SD = 35.37*). The posts of the marks-up and marks-same groups went down in terms of the level of social presence for the first assessed task (*M = 98.05, SD = 17.02*; and *M = 93.4, SD = 26.34*) and continued this downward trend for the final assessed task (*M = 67.79, SD = 12.05*; and *M = 70.11, SD = 20.57*). The non-starters group had an almost as high social presence density mean score (*M = 148.31, SD = 35.37*) as these first three groups but then decreased to zero because they dropped out of the course and did not take part in either of the assessed tasks. The posts of the marks-down group differ from those of the marks-up and marks-same groups as their social presence density mean score increased from the first (*M = 66.00, SD = 26.86*) to the final assessed task (*M = 75.41, SD = 9.78*). The non-finishers group had the lowest mean score for the warm-up task (*M = 75.28, SD = 18.74*) and then increased for the first assessed (*M = 92.99, SD = 29.90*) task before decreasing to zero as these learners dropped out of the course between the first and final assessed tasks.

The results for social presence density for the marks-up and marks-same groups were generally the highest of the five groups for the warm-up task; they dropped sharply for the first assessed task and then decreased more gradually for the final assessed task. The marks-down group had a similarly high score for the warm-up task, but dropped more sharply than the marks-up and marks-same groups for the first assessed task although then increased for the final assessed task and showed the highest mean of all the groups. The only group who showed higher scores from the warm-up task to the first assessed task was the non-finishers group. The group was very small (*n=3*) and so it is difficult to draw conclusions, yet, as pointed out previously, the first assessed task is a critical point in the course for learners because the first group tasks begin immediately after this. In fact, 2 of the 3 learners in the non-finishers group submitted no further work for the course at all after the first assessed task but one continued taking part in the course until the penultimate assessed task. Our findings seem to indicate that learners who are more successful in terms of marks over the course show higher levels of social presence, particularly in the early part of the course.

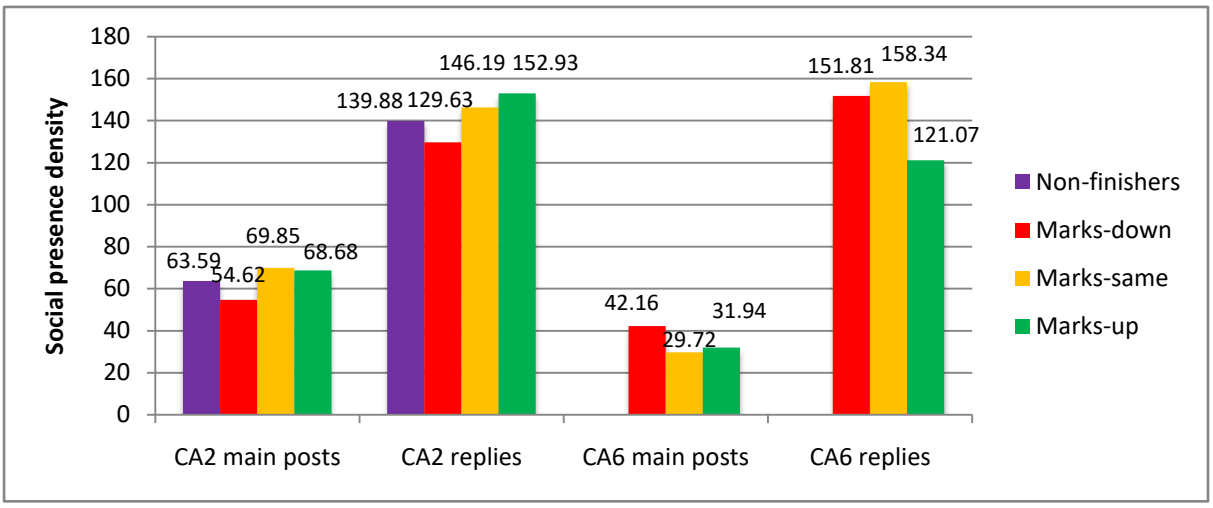
We now examine more closely the social presence density scores for the first part of the assessed tasks (the essays). We compare the results for this measurement in learners' replies posted to classmates in the second part of the assessed tasks. To avoid skewing the results, we only included learners who posted and replied to other participants at least once for each task. Figure 76 shows the social presence density mean scores for the main posts and then for the replies in the forums for each of the assessed tasks.

Figure 76. Social presence density for main posts and replies in 2 tasks



As we can observe in Figure 76, the overall mean social presence density in learners' essays decreased from the first assessed task to the final assessed task and the decrease was considerable: from 68.45 (*SD = 21.55*) down to 31.22 (*SD = 12.85*). However, the mean scores for the replies increased from 146.38 (*SD = 45.62*) to 150.03 (*SD = 67.27*). In other words, while learners expressed social presence far less in their essays for the final assessed task than the first assessed task, possibly due to the nature of the task, learners increased their level of social presence from the first assessed task to the final assessed task in their replies. When we view the results in this way, the most significant factor which affects social presence density seems to be the nature of the task. If learners were less willing to express themselves as real people in an online environment towards the end of the course, we would expect to see correspondingly lower rates of social presence in replies to others, but this was not the case. We now consider the breakdown of social presence density for the main posts and replies according to the marks progression groups. Figure 77 shows these results.

Figure 77. Social presence density in main posts and replies according to MPGs in 2 tasks



As we can observe in Figure 77, the overall trend we saw in Figure 76, which included all of the learners together, is the same here: each marks progression group showed a higher level of social presence in replies to other participants than in their main essay posts and this was consistent in both assessed tasks. However, there were differences between the groups. While all three groups who took part in both assessed tasks showed decreasing levels of social presence in their main contributions from the first to the final assessed tasks, the marks-down and marks-same groups both showed higher levels of social presence in replies when we compare one assessed task to the other. On the contrary, the marks-up group showed a decrease in social presence in replies when comparing the two tasks.

The learners in the non-finishers group expressed significantly higher levels of social presence in the first assessed task in their replies to other participants (*M = 139.88, SD = 21.04*) than in their main essay (*M = 63.59, SD =37.28*). The marks-down learners showed higher social presence in replies for CA2 (*M = 129.63, SD = n/a* as there was only 1 learner) than in their main posts (*M = 54.62, SD = n/a* as only 1 learner). For CA6, this group also showed lower social presence for the main post (*M = 42.16, SD = 6.5*9) than for replies (*M = 151.81, SD = 74.59*). The marks-same group showed similar results: for the main posts for CA2, they had a mean social presence score of 69.85 (*SD = 23.43*) and for replies, they expressed much higher social presence with a mean score of 146.19 (*SD = 50.26*). For CA6, this group had a mean score of 29.72 (*SD = 13.54*) for the main contributions and 158.34 (*SD = 75.65*) for replies. Finally, the marks-up group had a mean score of 68.68 (*SD = 14.06*) for main posts for CA2 and 152.93 (*SD = 47.32*) for their replies. For the final assessed task, this group had a mean score of 31.94 (*SD = 11.66*) for main posts and 121.07 (*SD = 19.88*) in their replies to others.

It is difficult to explain the results here, but the standard deviation scores may help: both the marks-down and marks-same groups had very high standard deviations (and therefore a wide range of results for individual learners in the groups) for CA6, whereas the marks-up group had a much smaller standard deviation. We should therefore take care when drawing firm conclusions here because the mean scores can only indicate general trends.

To illustrate the differences between main posts and replies in the two assessed tasks, we will analyse examples of coded posts from each. Excerpt 1 shows a fragment of the contribution produced by a student, anonymised as Robert, and his main essay for the first assessed task.

Excerpt 1. Main post for first assessed task from Robert (Post 1ca213)

Post: 1ca213		Affective	Cohesive	Interactive
L454 L455 L456 L457 L458 L459 L460 L461 L462 L463 L464 L465 L466 L467 L468 L469 L470 L471 L472 L473 L474 L475 L476 L477 L478 L479 L480	There are big amount of people that have the necessity to keep on studying continuously to feel alive, besides it is must to go on studying for further your career. Having a full time work at the time you have to attend to classes can be difficult to deal with. In my opinion, that is the main reason why learning on line can top up importance. In my particular case, I work from morning till evening in part time timetable. After that I try to do some sports, as well as I have to study to keep up to date in my current job. Improve my English is also necessary for me, but my day is absolutely full, so I do not time for anymore. That is why I have considered that learning English online it is the chance that I needed. On the other hand, it is also necessary to make a huge effort and open your laptop every single minute of free time you have.	**Self-disclosure:** In my particular case, I work from morning till evening in part time timetable. // After that I try to do some sports, as well as I have to study to keep up to date in my current job. // but my day is absolutely full, // That is why I have considered that learning English online it is the chance that I needed. **Expressing value:** There are big amount of people that have the necessity to keep on studying continuously to feel alive, // besides it is must to go on studying for further your career. // Having a full time work at the time you have to attend to classes can be difficult to deal with. // In my opinion, that is the main reason why learning on line can top up importance. // Improve my English is also necessary for me, // so I do not time for anymore. // On the other hand, it is also necessary to make a huge effort and open your laptop every single minute of free time you have.		

In Excerpt 1, there was no greeting to start or finish the post but Robert did express affective social presence when he shared personal information in the longer paragraph ("In my particular case, I work from morning till evening...") and by expressing value, in terms of attitude (for example "Having a full time work at the time you have to attend to classes can be difficult to deal with."). Excerpt 2 shows a reply to Robert's post from a student anonymised as Sara.

Excerpt 2. Reply to Robert's main post for first assessed task from Sara (Post 1ca21303)

Post: 1ca21303		**Affective**	**Cohesive**	**Interactive**
L581 L582 L583 L584 L585 L586 L587 L588 L589 L590 L591 L592	Hi Robert! I have readed your essay , and I agree completely with you ... Nowadays keep on enlarging and updating your formation has become an essential need. The thing is that I have the same problem as you , I have no more free time left, so that is why online learning its the best option for me. In my opinion the key to optimize the learning experience is to organize yourself. see you soon!	**Self-disclosure:** The thing is that I have the same problem as you // I have no more free time left, // so that is why online learning its the best option for me. In my opinion the key to optimize the learning experience is to organize yourself. **Expressing value:** Nowadays keep on enlarging and updating your formation has become an essential need. // In my opinion the key to optimize the learning experience is to organize yourself. **Emoticons, punctuation:** ! // !	**Phatics, salutations:** Hi Rubén // see you soon **Intersubjectivity:** The thing is that I have the same problem as you	**Referring to other's messages:** I have readed your essay , // and I agree completely with you **Expressing agreement:** I agree completely with you

In Excerpt 2, we can see that Sara expressed affective social presence in her reply by self-disclosing (e.g. "I have no more free time left"), by expressing value (e.g. "Nowadays keep on enlarging and updating your formation has become an essential need") and by using emoticons/punctuation (e.g. "..." and "!"). She expressed cohesive social presence in her message by including opening and closing expressions and also by emphasising similarities between her and Robert ("The thing is that I have the same problem as you"). Sara expressed interactive social presence referring to Robert's message ("I have readed your essay, and I agree completely with you") and by expressing agreement ("I agree completely with you"). Excerpt 3 shows a main post from the final assessed task from another student, anonymised as Felip.

Excerpt 3. Main post for final assessed task from Felip (Post 1ca603)

Post: 1ca603		**Affective**	**Cohesive**	**Interactive**
L454 L455 L456 L457 L458 L459 L460 L461 L462 L463 L464 L465 L466 L467 L468 L469 L470 L471 L472 L473 L474 L475 L476 L477 L478 L479 L480 L481 L482 L483 L484 L485 L486 L487 L488 L489 L490 L491 L492 L493	Entry fees for museums are completely justified Undercover discrimination is what museum entrance fees are, undoubtedly not all of us can afford the amount imposed by the museums administrations but we all certainly have the same right to access to the culture, in fact the first recognized museum of human history whom opened his doors in 1683 was completely free but in the other hand how museums would persist open without this economic support? Without doubt museums requires maintenance, employees and services to remain open and that is definitely expensive, therefore entry fees permit to accomplish such a difficult aim, furthermore entry fees allows to minimize the government subsidy. Nevertheless we must never forget that the main purpose of the museums is the cultural promotion and imposed fixed entry fees excludes a wide group of citizens who cannot afford them. To conclude we can see that museums need to have incomes to persist functioning but maybe the actual system needs a different point of view such as the British Museum that is based on a donative system that substitutes the regular concept of entry fee, allowing different people with different budgets to satisfy their thirst of knowledge in addition to this is the fact that you can do your contribution after your visit giving you the choice to do a contribution according to your satisfaction. Regards.	**Expressing value:** Undercover discrimination is what museum entrance fees are, undoubtedly not all of us can afford the amount imposed by the museums administrations // but we all certainly have the same right to access to the culture, // but in the other hand how museums would persist open without this economic support?*// Without doubt museums requires maintenance, employees and services to remain open and that is definitely expensive, // therefore entry fees permit to accomplish such a difficult aim, // furthermore entry fees allows to minimize the government subsidy. // Nevertheless we must never forget that the main purpose of the museums is the cultural promotion // and imposed fixed entry fees excludes a wide group of citizens who cannot afford them. // To conclude we can see that museums need to have incomes to persist functioning // but maybe the actual system needs a different point of view // allowing different people with different budgets to satisfy their thirst of knowledge // in addition to this is the fact that you can do your contribution after your visit giving you the choice to do a contribution according to your satisfaction. *This is a question (interactive social presence), but the question is rhetorical.	**Phatics, salutations:** Regards	

As we can observe in Excerpt 3, Felip showed affective social presence, by expressing personal values, beliefs and attitudes. There were no instances of self-disclosure and cohesive social presence was limited to the closing word “Regards”. Excerpt 4 shows a response to Felip’s essay contribution from a student anonymised as Julia.

Excerpt 4. Reply to Felip's main post for final assessed task from Julia (Post 1ca60301)

Post: 1ca60301		Affective	Cohesive	Interactive
L500 L501 L502 L503 L504 L505 L506 L507 L508 L509 L510 L511 L512 L513 L514 L515 L516 L517 L518	Hi Felip I've liked a lot reading your opinion, you'redistributedvery well the ideas and it's easy toundersand.I totally agree with you, art should be free for everybody, because knowledge and the cultural level provides the greatest wealth of a country.It's true that there are several expenses to maintain their operation but I think it's the government that should take the responsability for this issue, prioritizing culture instead of wasting money with so many official cars. This is my opinion :) Best regards,	**Expressing value:** you're distributed very well the ideas // it's easy to undersand. // art should be free for everybody, // I think it's the government that should take the responsability for this issue, // prioritizing culture instead of wasting money with so many official cars. // This is my opinion **Emoticons, punctuation:** :)	**Phatics, salutations:** Hi Felip // Best regards **Emoticons, punctuation:** :)	**Referring to other's messages:** I've liked a lot reading your opinion, you're distributed very well the ideas and it's easy to undersand. // I totally agree with you, art should be free for everybody, because knowledge and the cultural level provides the greatest wealth of a country. // It's true that there are several expenses to maintain their operation **Complimenting, appreciation:** I've liked a lot reading your opinion, you're distributed very well the ideas and it's easy to undersand. **Expressing agreement:** I totally agree with you,

In Excerpt 4, we can see that Julia expressed cohesive social presence by addressing Felip by his name. She also expressed interactive social presence by referring to the content of his post (e.g. "I've liked a lot reading your opinion"), showing appreciation of what he had written and expressly agreeing with him. She also expressed affective social presence with a 'smiley' and by weaving her own opinion into her response.

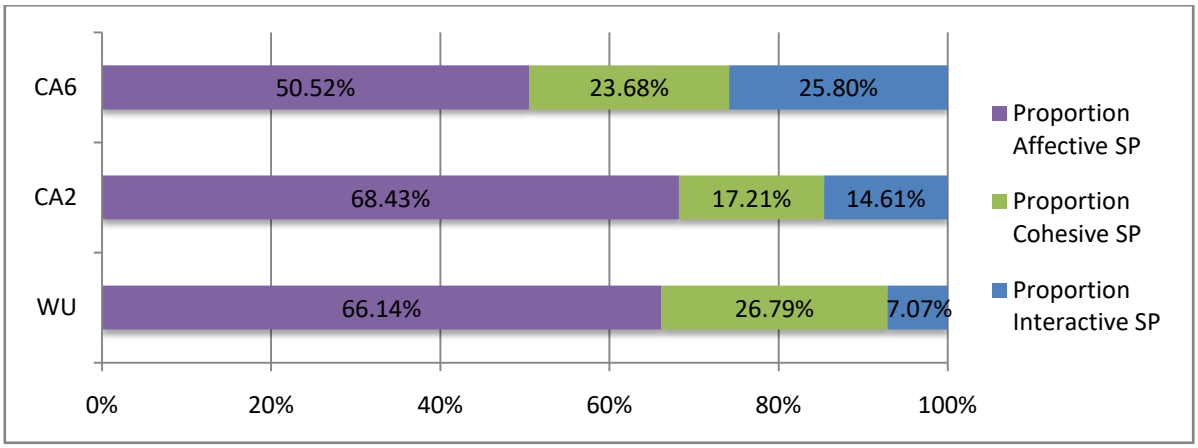
As we can observe in these four examples, the main posts tend to show fewer instances of social presence and also a narrower range of types of social presence compared with the replies. This trend was quite typical through the two assessed tasks.

6.4.2 Types of social presence.

As we discussed when reporting on the findings for case study 1 (see section 5.3.2), various studies (Rourke et al., 1999; Swan, 2001, 2002, 2003; Satar and Akcan, 2018) measure the type of social presence in terms of affective, cohesive and interactive categories. In the present study, the raw numbers of instances are small and therefore, rather than calculating the density for each category

of social presence, we analysed the proportions of each category of social presence against the total instances of social presence for each participant, as was done in the previous section for the total numbers of social presence. Figure 78 shows the difference between the mean scores for proportions of each category of social presence for all participants across the three tasks.

Figure 78. Proportion of types of social presence for all participants across the 3 tasks



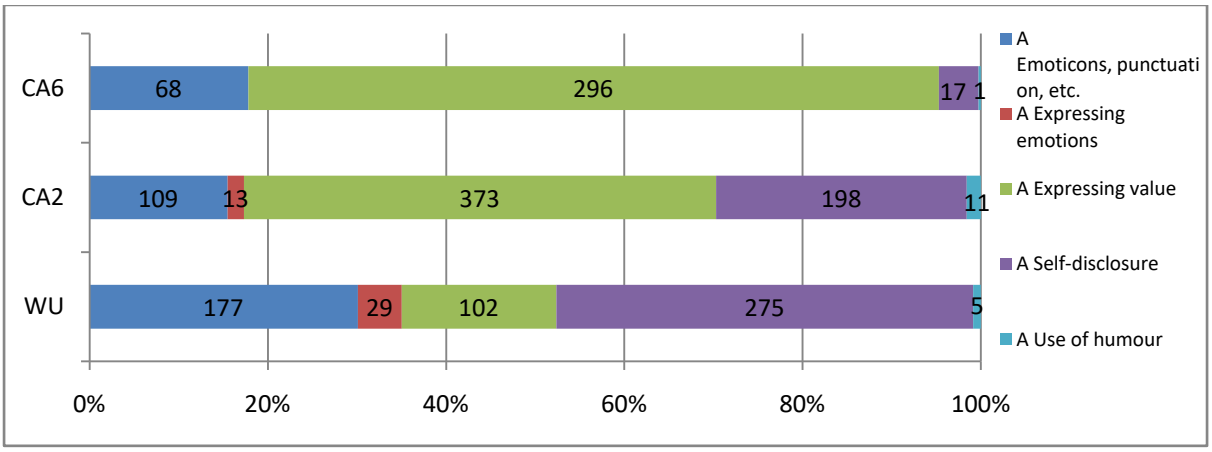
As we can observe, affective social presence increased slightly from the warm-up (*M = 66.14%, SD = 11*) to the first assessed task (*M = 68.43%, SD =15*) before decreasing significantly for the final assessed task CA6 (*M = 50.52%, SD = 11*). Cohesive social presence decreased from 26.79% (*SD = 9*) in the warm-up task to 17.21% (*SD = 10*) for the first assessed task before increasing again for the final assessed task (*M = 23.68%, SD = 7*). However, mean scores for interactive social presence increased consistently from one task to the next, from 7.07% (*SD = 5*) in the warm-up task to 14.61% (*SD = 9*) for the first assessed task and then again up to 25.80% (*SD = 9*) in the final assessed task. These findings seem to confirm those of Swan (2002, 2003), who notes that as groups of learners progress through the course, they tend to show lower levels of affective and cohesive social presence while showing increasing levels of interactive social presence. In her study, she argues that affective indicators seemed to grow initially before dropping for the final part of the course. On the other hand, she also observed that cohesive indicators decrease progressively over time, while interactive indicators increased over time, possibly as learners realised the importance of linking their discussions with others "into a coherent whole" (Swan, 2003, p. 42).

In the present study, the differences in types of social presence expressed by participants in the three tasks may be partly related to the stages of community-building, as Swan (2003) suggests, but there are several other possible explanations. Firstly, these changes may be related to the different nature of the three tasks: the tasks in the warm-up and first assessed task asked learners to share personal information more than the final assessed task. All three tasks required learners to interact

with each other and so it is also possible that they acquired ways of interacting more effectively and more explicitly with one another over the course. Secondly, through reading other posts from other participants, including the teacher, learners may be noticing interactive expressions used and beginning to incorporate them into their own writing. Thirdly, learners are assessed by and receive feedback from the teacher on their assessed writing tasks and this may have an impact on how they express social presence in subsequent tasks, particularly if the teacher comments on the way they interact with others in the tasks. Finally, learners undoubtedly become more familiar with the procedure of forum tasks as the course progresses and this is also likely to have an impact on how learners express themselves and may explain the gradual increase in interactive social presence from one task to the next.

In order to understand the changes in social presence expressed in each task, we also calculated the breakdown of the different indicators for each type of social presence, taking raw numbers of each indicator for each type directly from Atlas.ti for this analysis, rather than calculating mean scores. The results include all participants, that is, all learners and the teacher. Figure 79 shows the results for affective social presence.

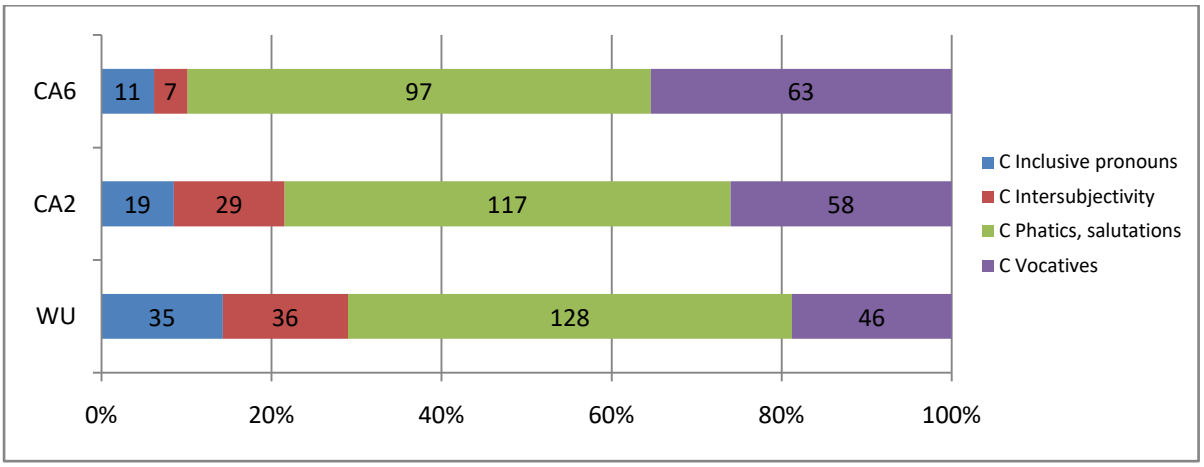
Figure 79. Breakdown of instances of affective social presence across the 3 tasks



As we can observe in Figure 79, there were significant differences in the various affective indicators between the three tasks. While in the warm-up task (WU), the majority of instances were of self-disclosure, this indicator decreased for the first assessed task (CA2) and then dropped to a minimal amount of under 5% for the final assessed task (CA6). On the other hand, expressions of value in the warm-up represented under 20% of all instances of affective social presence; this then increased to just over half for the first assessed task, before increasing significantly again to nearly 80% of the instances for the final assessed task. Expressions of emotion and humour represented very small proportions of affective social presence but paralinguistic features such as emoticons and unusual

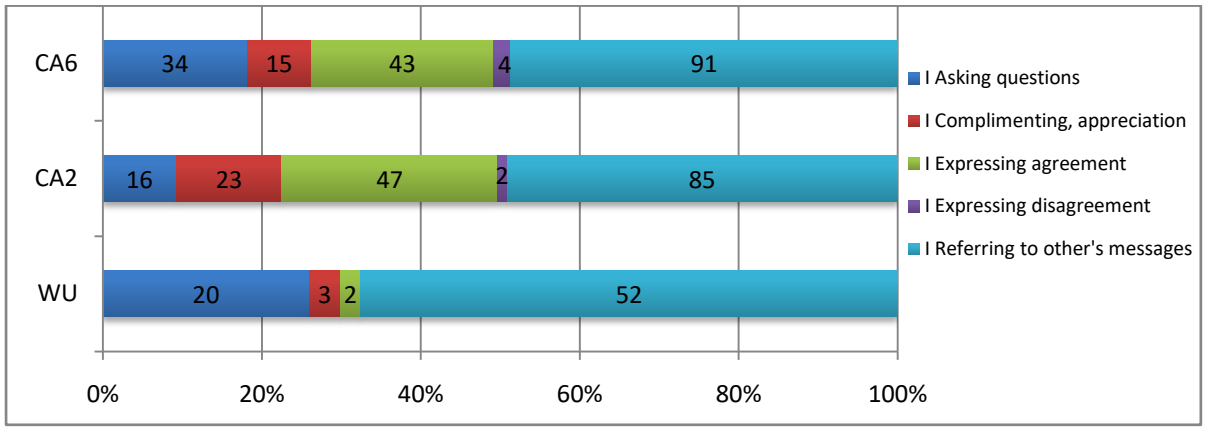
uses of punctuation represented around 30% of instances for the warm-up, yet then dropped to around 15% of the total in both of the assessed tasks. This evolution seems to correspond to the different nature of the three tasks as we have discussed above. Figure 80 shows the breakdown for the cohesive category of social presence.

Figure 80. Breakdown of instances of cohesive social presence across the 3 tasks



As we can see in Figure 80, the use of inclusive pronouns decreased from the warm-up task to the first assessed task and again to the final assessed task. This is understandable because at the start of the course, learners do not know each other yet (although they can see one another's names) and are more likely to write to the group as a whole (e.g. Hi everyone), as opposed to writing to specific people. There was a corresponding gradual increase in the use of vocatives (e.g. I'm a professor just like Maria) as learners increasingly addressed their posts to specific people and mentioned them in their writing. By far the largest proportion of cohesive social presence indicators were phatic expressions and salutations (e.g. Hello there, Hi!, Best wishes!), that is, post openings and closings. This indicator represented a little over 50% of the instances of cohesive social presence across all three tasks and remained stable across the three tasks. The final indicator, intersubjectivity, decreased gradually from one task to the next. Again, this can be understood if we recall that part of the warm-up task required learners to find something in common with others and then write about those similarities. Now we examine the breakdown of interactive social presence, as displayed in Figure 81.

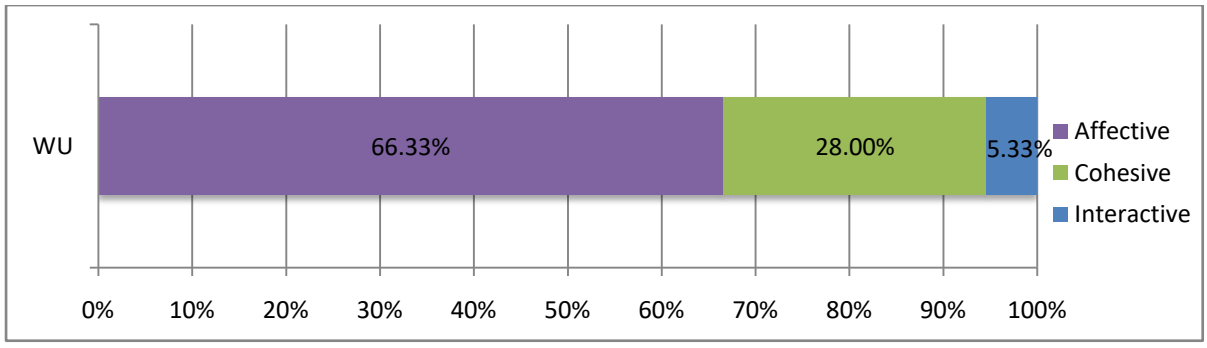
Figure 81. Breakdown of instances of interactive social presence across the 3 tasks



As we can observe in Figure 81, learners referring to others' messages accounted for the majority of interactive social presence in all three tasks, although this decreased from 68% in the warm-up task to around half for both of the assessed tasks. Learners expressed very little disagreement over the course. On the other hand, instances of agreement increased significantly when we compare the warm-up task and the assessed tasks. This may be explained by the fact that the task rubric for the second part of the assessed tasks asked learners to comment on whether they shared the writer's experiences and/or thoughts. Similarly, learners were specifically encouraged to ask one another questions for the warm-up task, which may explain the higher proportion of this indicator in that task.

Having considered the use of different indicators of the three types of social presence across the three tasks, in the next section, we present and discuss the results for the types of social presence according to the different marks progression groups. Figure 82 shows the breakdown of the three types of social presence in the warm-up for the non-starters group.

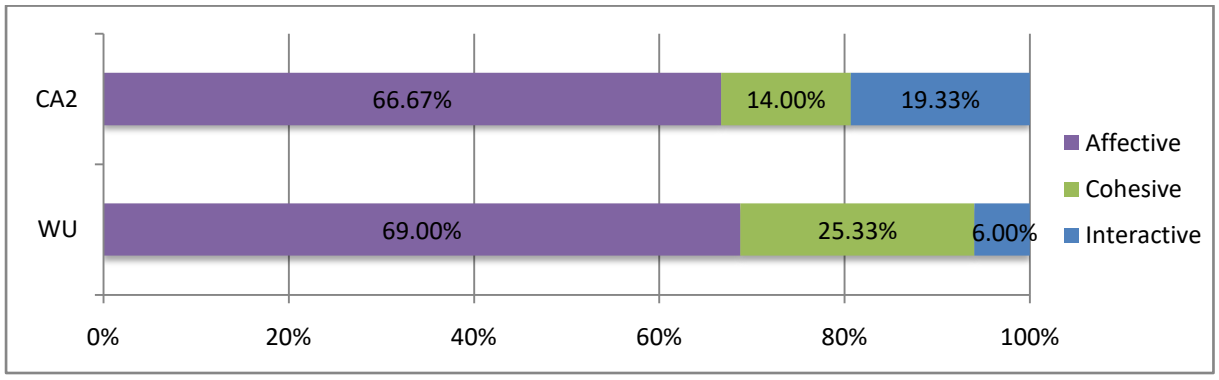
Figure 82. Types of social presence non-starters group in 1 task



In Figure 82, we can only show results for the warm-up task (WU) because these learners did not submit any posts for the other two tasks. We present the findings so that they can be compared with

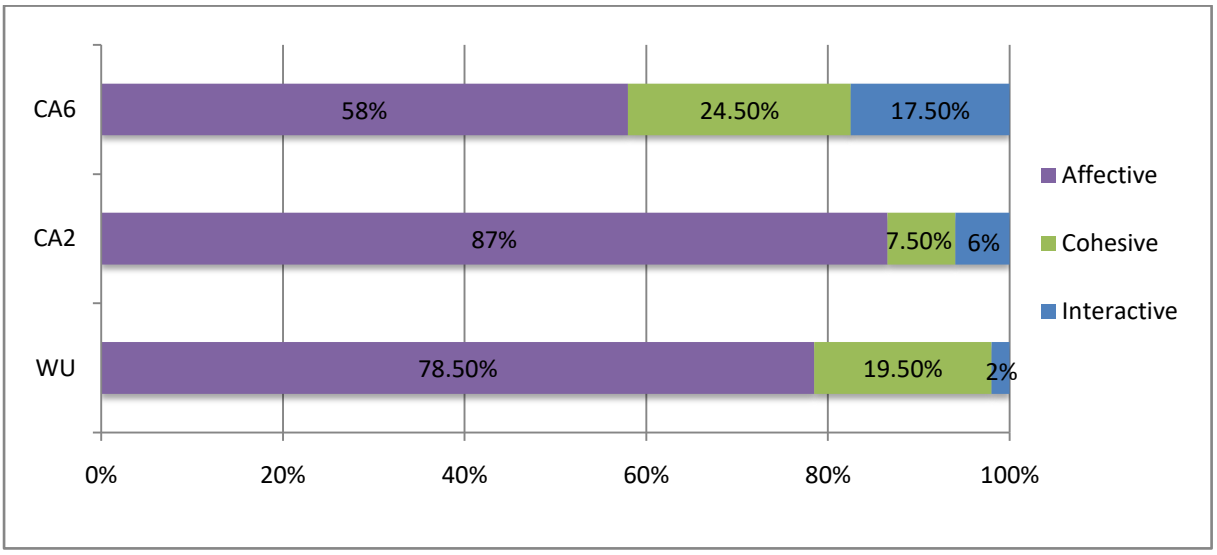
the other groups and also because we are interested in finding out how learners who did not complete the course work used social presence. As we can observe, affective social presence made up the majority of social presence by this group of learners (*M = 66.33%, SD = 20*). This is followed by cohesive indicators (*M = 28%, SD = 15*) and with interactive indicators making up the rest (*M = 5.33%, SD = 9*). This pattern is very similar to the breakdown of types of social presence for the warm-up task when all participants were included, as shown in Figure 78. The high proportion of affective social presence fits with the main aim of the task and the small proportion of interactive social presence is in line with findings by Swan (2002, 2003), in that interactive social presence indicators are used less in the early stages of a course. Moving on to the non-finishers group, the breakdowns of the different types of social presence across two tasks are displayed in Figure 83.

Figure 83. Types of social presence non-finishers group across 2 tasks



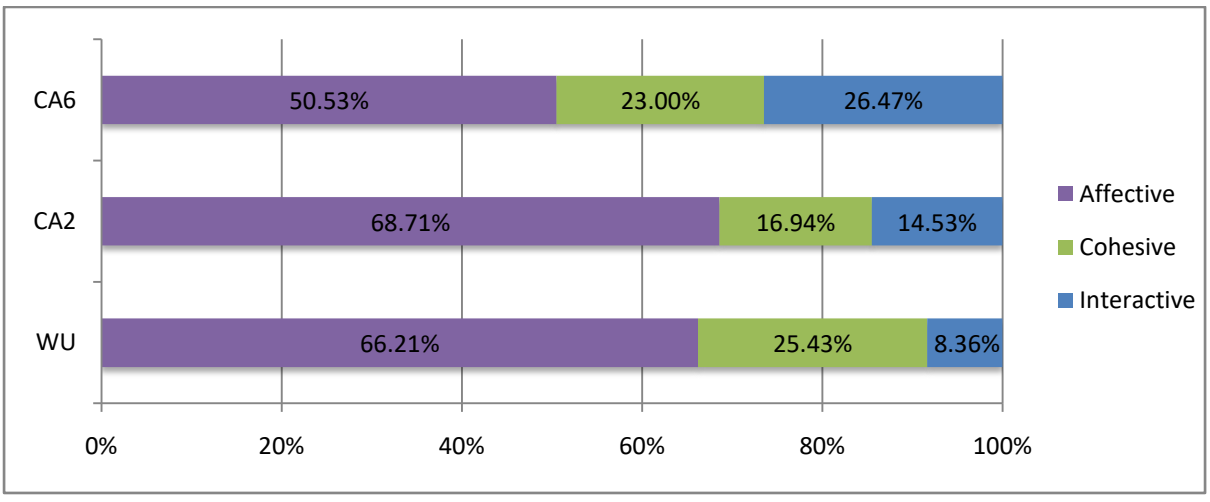
As we can note in Figure 83, the proportions of the three types of social presence for the warm-up in the non-finishers group were similar to the non-starters group for the warm-up. We can also observe there was a substantial increase in the use of interactive indicators and a corresponding decrease in instances of cohesive indicators for the first assessed task, while affective social presence remained very similar in the two tasks. These findings are similar to the overall findings for the whole class that we considered earlier (see Figure 78), although in this group, the proportion of interactive social presence was a little higher. Assessment may be the factor that explains the increase in use of interactive social presence, as learners follow the instructions for the first assessed task closely and replied to at least two other participants in the task. These findings are in line with those of Swan (2002, 2003), who also finds increased levels of interactive indicators across time, but in this case, as the first assessed ask took place only a week after the warm-up, this may have less relevance given the short difference in time between the two tasks. Furthermore, the low number of learners in this group (*n=3*) means that it is impossible to draw firm conclusions. We now move on to examine the results for the proportions of the three types of social presence in the three tasks for the learners in the marks-down group. The results are shown in Figure 84.

Figure 84. Types of social presence marks-down group across the 3 tasks



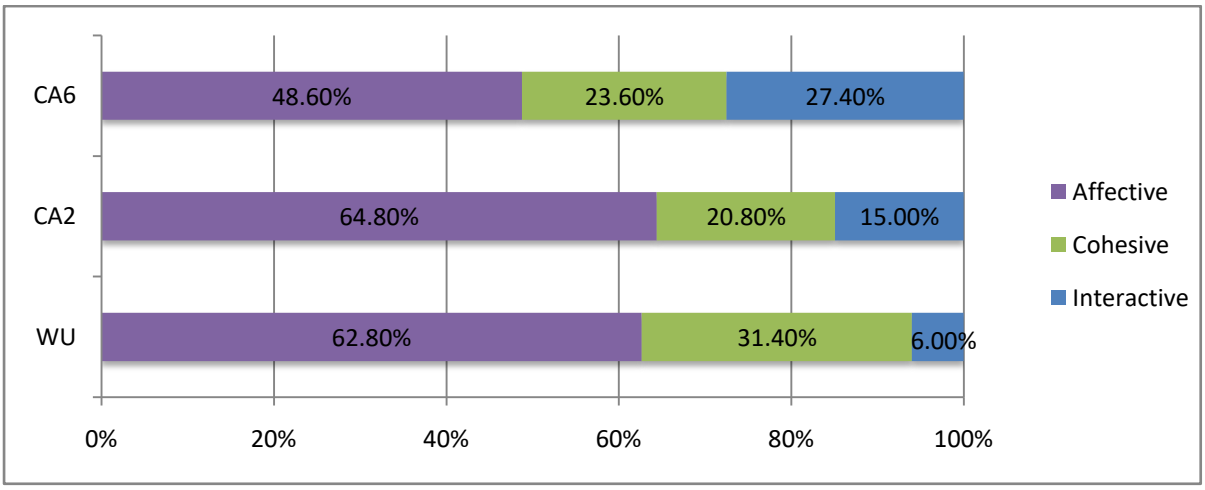
As we can observe in Figure 84, differences between the proportions of the three types of presence from the warm-up to the first assessed task are quite marked, as they were in the non-finishers group, and there was a large increase in interactive social presence from the first assessed to the last assessed task. The cohesive indicators went down considerably from the warm-up task to the first assessed task before increasing to their highest levels in the final assessed task. At the same time, there was an increase in affective indicators in this group from the warm-up to the first assessed task, but then a larger decrease in the final assessed task. The results for the learners in the marks-down group show similar trends to the results we saw when we included all participants (see Figure 78). However, the size of the group (*n=2*) means that it is not possible to draw firm conclusions based on these results. We turn now to the proportion of the three types of social presence for the marks-same group. These are shown in Figure 85.

Figure 85. Types of social presence marks-same group across the 3 tasks



As we can observe in Figure 85, the learners in the marks-same group increased their use of interactive social presence across the three tasks, which is in line with the results in Swan's (2003) study. There was a corresponding decrease in the use of cohesive social presence in the first assessed task, while indicators of affective social presence remained stable between these first two tasks. However, in the final assessed task, the use of affective social presence dropped to approximately half of the instances while both cohesive and interactive social presence showed corresponding increases. Finally, Figure 85 shows the proportion of the three types of social presence for the learners in the marks-up group.

Figure 86. Types of social presence for marks-up group across the 3 tasks



As we can observe in Figure 86, the learners in the marks-up group used similar proportions of the three types of social presence across the three tasks in a similar way to what the marks-same group learners did. From the warm-up to the first assessed tasks, interactive social presence indicators increased while at the same time, cohesive indicators went down, with affective indicators remaining around the same. For the final assessed task, the use of affective social presence indicators dropped to around half of all of the instances of social presence, cohesive social presence increased and interactive social presence rose considerably to represent around a quarter of the social presence for the final assessed task.

6.5 Discussion about Case Study 2

The findings presented in this chapter have shown how learners' engagement changed over the three tasks. We have seen that whether tasks are assessed or not is a key factor in their engagement, but particularly when it comes to their behavioural engagement where assessed tasks showed higher rates of active participation. We have also found evidence to suggest a relationship between the patterns of behavioural and emotional engagement in the three tasks and how

learners' marks change along the course. We will now discuss each of these principal findings in turn.

When taking into account all participants, there was an increase in the number of posts, and the amount of language produced doubled between the warm-up and the first assessed task. When we compared between the first and the last assessed task, there were slight decreases in both posting rates and the amount of language produced, although the mean scores for the number of words produced increased slightly between these two assessed tasks. In general, we have seen a considerably higher level of participation in the assessed tasks compared to the unassessed task. At the same time, in contrast with these increased levels of active participation in the assessed tasks, our findings have shown that learners in general read each others' posts progressively less as the course went on: participants read posts in the forum on a far higher number of possible days in the warm-up task compared to the two assessed tasks. This may be evidence of learners finding it difficult to keep up with reading a high number of posts in the forum along the course (Rodriguez, 2014) or it may be a sign that learners were experiencing a motivational slump (White, 2007) towards the end of the course. We would need to ask learners about this to confirm the cause, but our suggestion is that learners should be made aware of why they are asked to read posts in the forum from their peers in terms of the benefits this has on their learning.

On the other hand, the levels of social presence density decreased considerably from their highest level in the warm-up task to the lowest level in the final assessed task. We have seen that the nature of the warm-up task invited learners to share information about themselves and this might explain the highest levels of social presence being expressed in that task. Similarly, the decrease in social presence again between the first and final assessed task may be related to the different nature of the two assessed tasks; in the first, learners mainly answered the question which explicitly asked them to share their personal experience, whereas in the final assessed task, all of the questions were objective, therefore making it less likely that learners would share their personal experiences. When we compared social presence in essay posts and in any of the warm-up posts or responses to essays, it was even more evident that the types of writing learners were asked to do for each task had a significant impact on the amount of social presence expressed. We concur with Kol and Schcolnik (2008) in that there are two distinct academic genres within the forum discussions in our study: a more formal genre in the case of the essay contributions in the two assessed tasks, and a more informal genre in the warm-up task. This more informal style of writing is also found in replies to others in the assessed tasks. This was particularly noticeable when we analysed social presence in the assessed tasks: our analyses showed that while the overall social presence in the final assessed

task was lower than in the first assessed task, the decrease in the level of social presence in main posts was large. This may be due to the different types of tasks as we have explained above. However, in replies to other participants, learners expressed slightly higher levels of social presence in the final assessed task. These findings may be related to those of Halvorsen (2012), who finds that emoticons, which tend to be more used in informal writing genres, are not used in learners' initial posts. Halvorsen explains that learners consider initial posts to be a more formal answer to learning activities, but when responding to one another's posts, which are generally student-to-student interactions, these posts tend to be less formal in nature, leading to a higher rate of emoticon use. In the present study, when learners were focusing on the academic parts of their tasks, as in their assessed essays, they expressed considerably lower levels of social presence than when they were replying to classmates' posts. It seems that social presence corresponds closely to the level of formality required in the writing.

If we consider the types of social presence expressed in the three tasks, there was a notable change, particularly when we compared the warm-up and the final assessed task, with a decrease in the use of affective social presence indicators and a significant increase of interactive social presence indicators. The increase in interactive social presence indicators towards the end of the course are in line with Swan's study (2003), where there were also higher levels of interactive social presence indicators in later tasks and can be explained in the same way: at the start of the course, participants were creating their community, but as they progressed through the course, this became less necessary and, instead, learners overtly expressed interactive social presence more. Looking more closely at the specific indicators for each type of social presence, while in the warm-up task, the majority of instances of social presence were self-disclosure, this indicator decreased and expressions of value increased considerably for the first assessed task and then again for the final assessed task, where they mostly made use of indicators of affective social presence. In terms of cohesive indicators, the biggest change occurred with the use of vocatives, or when learners were addressing others by name. This increased gradually from one task to the next. Again, this would seem to be a natural result of learners becoming more comfortable writing directly to others. Finally, in terms of indicators of interactive social presence, the vast majority of instances in the warm-up are related to participants' references to others' messages, but this dropped in both of the assessed tasks, where learners exposed their views on the topics in their essays and then expressed agreement with one another.

We also reported differences in behavioural and emotional engagement results between the three tasks. There are two possible explanations for these. Firstly, while the tasks we selected for analysis

were as similar as possible, there were differences in terms of (a) the number of words learners were asked to write, (b) whether participation in the task was assessed (and therefore compulsory) or not, and (c) the extent to which the task involved learners sharing their personal experiences or giving their opinions about the topics they focused on. Of these differences, assessment seems to be the most significant. Our findings are in line with the work of Alzahrani (2016) and Rodríguez-Juárez and Oxbrow (2010), who find assessment to be a critical factor affecting student participation in online forums, with learners participating more in assessed tasks than unassessed tasks. An alternative way to explain the differences in behavioural and emotional engagement across the three tasks relates to when each task took place along the course: the warm-up task started on Day 1 of the course, the first assessed task took place two weeks later and the final assessed task took place at the end of the course. The most significant impact is in terms of when learners took part within the scheduled timing of each task, and in terms of the types of social presence they expressed. For the former, the peak of participation is delayed from one task to the next; in the warm-up, the peak of participation is on Day 2, in the first assessed task, the peak is on Day 6 and in the final assessed task, it is on Day 9. This makes sense, though, because in the warm-up task, learners are not asked to do any preparation before posting their contributions, whereas for the assessed tasks, they are instructed to work on self-correcting materials to gain language input before they start writing. While the types of questions learners write about in each task most likely contribute considerably to the different types of social presence participants express, as we have argued above, we also believe that the increase in the employment of cohesive social presence indicators, particularly in the use of vocatives in the final assessed task, may well be a sign that the participants were engaging more with one another towards the end of the course, which is in line with Vaughan and Garrison's (2006) study, where they find that the frequency of group cohesion comments increased considerably over the course. Similarly, increasing levels of interactive social presence in our findings confirm the results in Swan's (2003) work.

It is also evident that assessment plays a major role in determining students' actions. For example, we have found the mean number of posts and also the amount of language produced to be higher in the two assessed tasks. The results for when participants took part in the three tasks seem to indicate that participants were following the task instructions closely in the assessed tasks. They continued participating and interacting together until well after the deadline for the final assessed task, perhaps making a final push as the end of the course approached. The implication here is that course requirements and task instructions in this course were clear to students, which confirms what Rovai (2001) suggests; that course and task requirements must be made explicit to learners. As mentioned earlier, we have also seen that while the majority of posts were sent to the warm-up task

on Day 2 of the task, the posting peaks in the two assessed tasks were Day 6 (for the first assessed task) and Day 9 (for the second assessed task). One reason for the difference in response time span between the warm-up and the assessed tasks is that the former did not require any preparatory work, while for the assessed tasks, learners are provided with self-correcting exercises to work on before they start writing. The scheduled timing of the task seems to have been a critical factor for the later peak in posting in the final assessed task; as this task finished just before the period, learners used the flexibility of task deadlines and continued working longer on this final task.

In terms of interaction, the various measures analysed seem to confirm that both assessed tasks fostered higher levels of interaction among participants than the unassessed task and what is more, participants were most interactive in the first assessed task. This small difference in rates of interaction between the two assessed tasks may be due to learners becoming more strategic towards the end of the course and participating and interacting within the minimum requirement of the task instructions, but little more.

We have also seen the effect that essay questions have on learners' use of social presence indicators. Essay questions which explicitly ask learners to share their experiences generate different levels of social presence compared to essay questions that lead learners to give their opinions. In the first assessed task, learners chose from three possible essay questions. Of the 27 learners, 24 chose to write about the first question and the remaining 3 wrote about the third question. These two questions were both related to the theme of learning online, yet, they were different in terms of how explicitly they asked learners to write about their own experiences. While the first question asked learners why they had chosen to study online and how online learner differed from their previous learning experiences, the third question asked them if it was possible to learn absolutely anything online, meaning that this last option was a more opinion-related essay question. On the other hand, in the final assessed task, all four questions triggered opinion-related essays and none were explicitly asking for learners to share their personal experiences. Overall, the lower levels of social presence evident in the final assessed task may be explained by the fact that in the first assessed task, the vast majority of learners chose to answer an essay question which was more personal in nature than any of the essay questions for the final assessed task. In fact, it was not until this difference in the levels of social presence was detected in this analysis that the differences between the essay questions in the first assessed task were noticed and the impact this might have on how learners write. As a course coordinator, I will be making recommendations to the course team to modify our questions with this in mind.

Our analysis of learners' behavioural and emotional engagement and the correlation with how their marks progressed over the course also indicate differences, particularly when considering the learners in the three groups which completed the course (marks-down, marks-same and marks-up) compared to the other two groups (non-starters and non-finishers). Learners in the marks-up group posted more in terms of the number of posts and the amount of language produced. Learners in this group also continue showing the highest proportion of possible read dates up to the last task, whereas the other groups decreased their reading steadily across the three tasks. This seems to confirm previous findings by Tudini (2005) and Delahunty (2018), who argue that attending (or "listening") to others by reading their posts can contribute to learning gains. The finer-grained analysis of word counts for the different parts of the assessed tasks (the essays and the replies) for the marks-down, marks-same and marks-up group shows the differences in learner participation between these three groups very clearly. While the majority of learners in these three groups increased the amount of language they produced in the essay parts of the tasks, when it came to replies to classmates, the marks-down group decreased their word count; however, the marks-same and marks-up groups both increased their word counts between the first and final assessed task.

In terms of the number of posts received, the results showed that learners who received the fewest posts did not continue with the course. Most notably, we have seen that the non-finishers received the fewest posts for the first assessed task (except for the non-starters, which is natural if they did not participate themselves). Whether there is any direct relationship between them receiving the fewest number of posts from others and their dropping out of the course subsequently is impossible to determine from the data analysed here.

We also found that learners in the marks-up and marks-same groups showed higher levels of social presence. However, when we separated the results for social presence for main posts and replies to others in the two assessed tasks, our findings were somewhat mixed. Learners whose marks went down and learners whose marks remained the same between these two tasks increased their levels of social presence in their replies to others, whereas learners whose marks increased showed lower levels of social presence in the final assessed task. This may be inter-related with learners' language development, as they became more accustomed to writing in the medium of the asynchronous discussion forum and focussed more on the content of their main essay contributions than in their replies to others. In terms of the varying types of social presence, we noted that those learners who increased their levels of interactive social presence along their participation in the three tasks the most were the learners whose marks increased over the course.

Chapter 7 Case Study 3: Alicia, Carolina and Iris

In this chapter, the findings from case study 3 are presented and discussed. The overall aim of case study 3 is to look more closely at three individual learners, one from each of the marks progression groups who completed all of the tasks in case study 2. For this case study, we did not include learners from the non-starters and non-finisher marks progression groups because by definition, those learners did not take part in all three of the tasks. In the first part of the chapter, we will present our analysis of the cognitive engagement of the three learners. For this analysis, we focus on the complexity, accuracy and fluency of the language the three learners use in their forum contributions. This type of analysis enables us to view the writing produced by these learners across the course objectively with the aim of understanding how these three learners' language competence developed. The behavioural and emotional engagement results of the three learners selected are then presented and we conclude the chapter by discussing the relationship between the three dimensions of learner engagement which emerge from our analyses in this case study.

7.1 Cognitive Engagement in Three Learners

As detailed in Chapter 4, the three learners selected for this stage of analysis were Alicia, Carolina and Iris (pseudonyms). All three learners were taking a language course at the UOC for the first time, none were studying a degree at this institution and all three were randomly assigned to classroom 1, which was one of the classrooms analysed in case study 1 and also the classroom analysed in case study 2. As detailed in chapter 4, the three learners were selected from each of the three groups who completed the course (marks-down, marks-same and marks-up). In the marks-down group, we chose Alicia, whose marks progressed from A for the first assessed task to B for the final assessed task. From the marks-same group, we selected Carolina, whose marks remained constant over the course and she was awarded C+ for both tasks. From the marks-up group, we chose Iris, whose mark for the first assessed task was C+ and for the final assessed task, she was awarded a B.

Following the CAF methodology used by Larsen-Freeman (2006), we present and discuss the findings for all of the three learners' posts for the three tasks in terms of how the individual contributions reveal (or not) the development of the learners' writing competence with regards to grammatical complexity, vocabulary complexity, grammatical accuracy and fluency. In order to carry out our analysis, we filtered these three learners' posts out of our corpus and then divided each text into 't-units'. T-units refer to main clauses with their subordinate clauses attached (Hunt, 1965). Following Larsen-Freeman's (2006) method of calculations, grammatical complexity is determined by the average number of clauses per t-unit. Vocabulary complexity is calculated from the number of different word types divided by the square root of two times the word count. Accuracy is calculated

by dividing the number of error-free t-units by the total number of t-units in the text. Finally, fluency is calculated from the average number of words per t-unit. We will present results for each of these measures in two ways, again following Larsen-Freeman (2006): firstly by presenting the interindividual variability over the three tasks, whereby we compare the three learners' scores for each piece of writing for each measure and compare them; and secondly, by presenting the intraindividual variability, whereby we focus on each learner and present the four measures together. As each measure is calculated differently, in order for us to be able to compare them, we converted the results into 'z-scores', which is a measurement used in statistics to transform values so that they can be compared on the same scale. By analysing these learners' texts for three tasks and comparing the results for the three tasks which took place over the course, our aim is to identify language development in the three learners' writing. We will then be able to explore any links between their behavioural and emotional engagement and their language development.

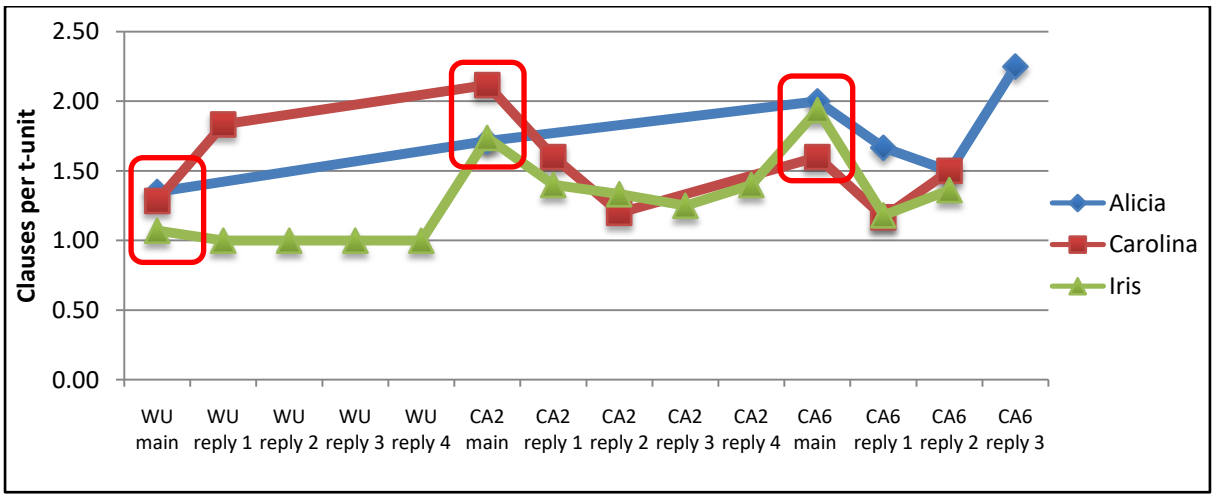
7.1.1 Interindividual variability.

We first present the results in terms of each measure of CAF analysis. The three learners' results are first shown together on each chart so that comparisons between them can be made. The results for the main posts for each task are marked on the charts below with a red rectangle. As we recall from the task instructions, each task consisted of two parts: a main contribution, and replies to classmates and we wanted to distinguish between these two types of posts to identify any differences between them in terms of learners' language development.

7.1.1.1 Grammatical complexity.

Figure 87 shows the individual variability of grammatical complexity of Alicia, Carolina and Ines for all of their forum posts for the three tasks. The three learners presented different numbers of posts, hence the different numbers of points on the chart.

Figure 87. Grammatical complexity in all posts of the 3 learners across 3 tasks

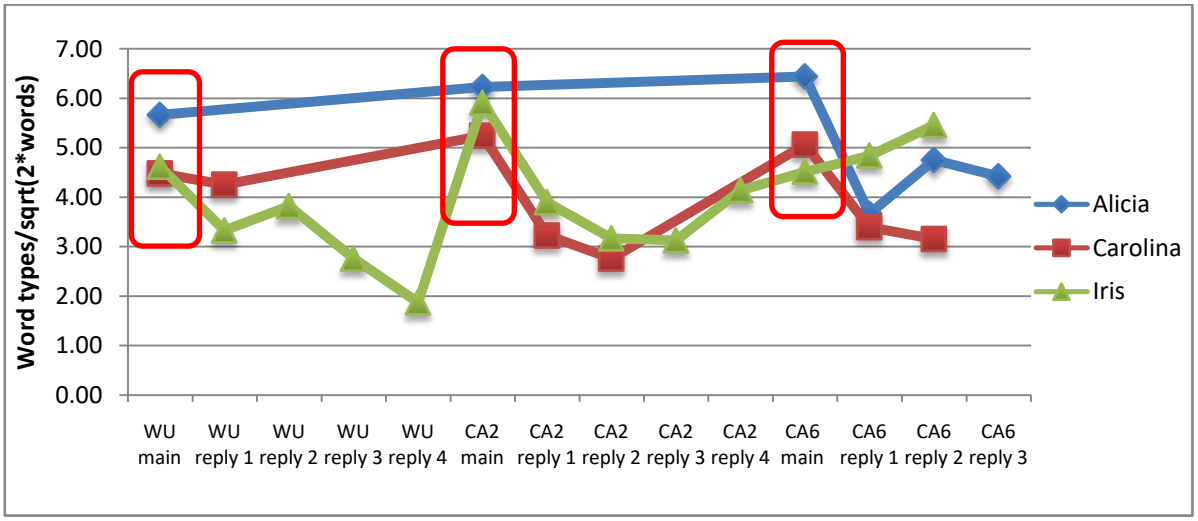


As we can observe in Figure 87, the general trend for all three learners is upward; however, there are individual differences too. The scores for Iris, the learner whose marks increased over the course, do show an upward trend, particularly if we look at the scores for her main contributions. Iris replied to others in the forum more than either Carolina or Alicia and the grammatical complexity of these response posts generally showed lower results than in her main posts, particularly in the two assessed tasks. Of the three learners, Carolina (whose marks stayed the same) increased the grammatical complexity of her posts the most between the warm-up and the first assessed task but then dropped down for the final assessed task, although this final task still scores better than her warm-up post. However, the grammatical complexity in the posts from Alicia, the learner whose marks went down over the course, do not seem to correspond to the marks-down rating (based on marks over the course from the teacher) as she showed a gradual increase in this measure and she got the highest score for grammatical complexity in her final reply in the final assessed task.

7.1.1.2 Vocabulary complexity.

If we look at Alicia, Carolina and Iris's vocabulary development over the course, the overall trend is similar to the development of the grammatical complexity in their posts, but with some notable differences, as displayed in Figure 88.

Figure 88. Vocabulary complexity in all posts of the 3 learners across 3 tasks



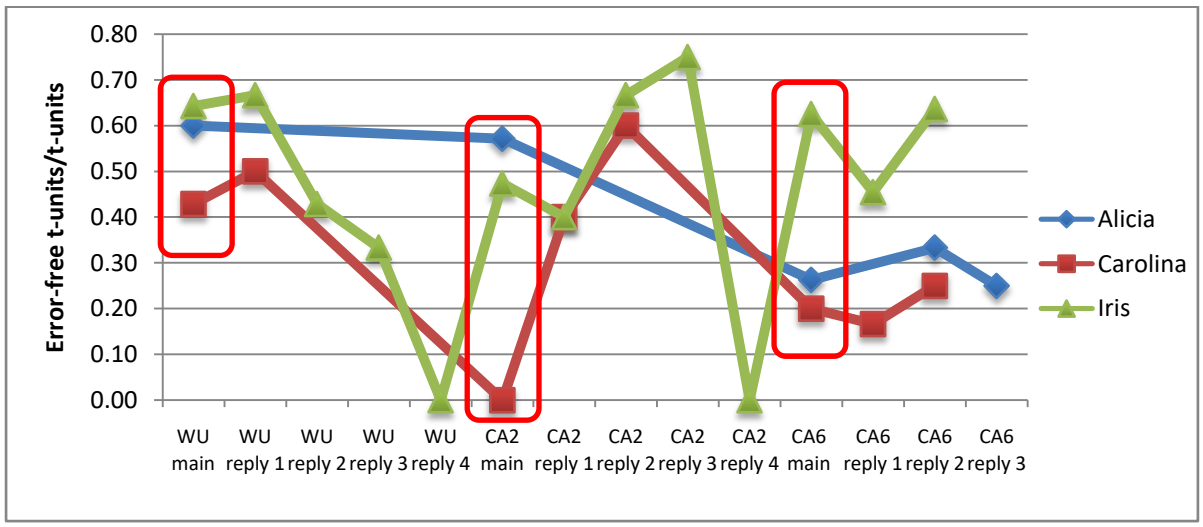
As we can observe in Figure 88, all three learners increased the complexity of their vocabulary from the warm-up to the first assessed task. Iris's replies to the warm-up went down considerably, more so than the grammatical complexity in her posts did. Similarly, Iris and Carolina's replies to the first assessed task both showed lower levels of vocabulary complexity than their main posts for this task although Iris's posts showed an increase in her last reply and continued this increase for all of her remaining posts over the course. On the other hand, Alicia started with the highest level of

vocabulary complexity in her posts in the warm-up compared to the other two learners and gradually increased this for her main posts but then dropped sharply in her replies. It is interesting to note that as she did not post any replies to classmates until the final assessed task, when she finally did so for this task, the drop in vocabulary complexity is evident. Carolina showed an increase from the warm-up to the first assessed task and then dropped slightly for the final assessed task; all of her replies showed lower levels of vocabulary complexity than in comparison to her main posts.

7.1.1.3 Accuracy.

We now look at how the learners scored in terms of accuracy in Figure 89.

Figure 89. Accuracy in all posts of the 3 learners across 3 tasks



As we can observe in Figure 89, the results are much more varied than in either of the measures of complexity shown above. This variation may be explained by the fact that, as we said earlier, 'accuracy' is measured in terms of error-free t-units and this includes errors in both grammar and lexis. The results generally seem to correspond more closely to how the learners were marked in the classroom and help us understand their places in the marks progression groups.

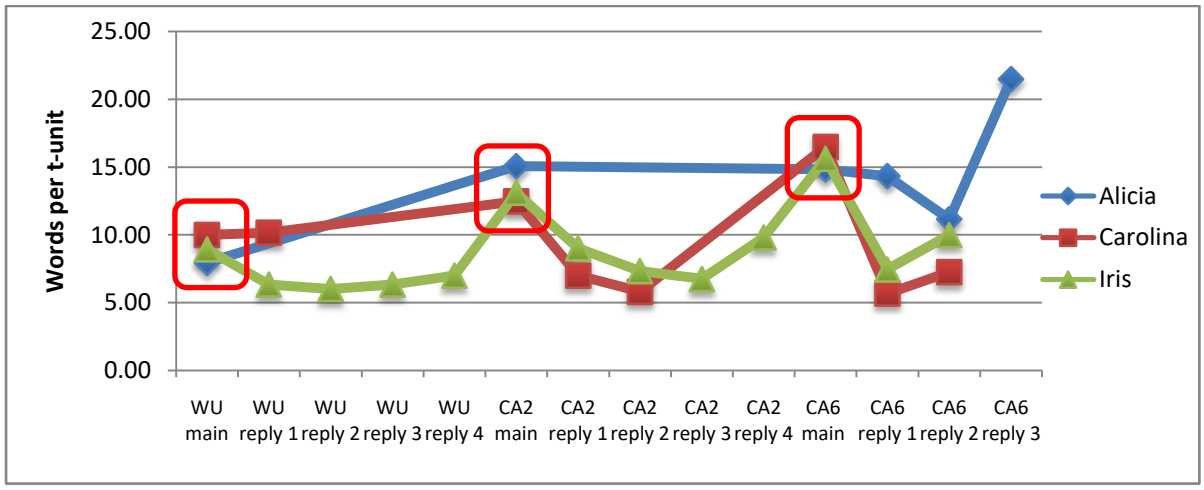
Iris's posts started with the highest level of accuracy of the three learners although her replies showed lower levels and dropped to zero (which means that none of the t-units were error-free) for her last reply in the warm-up task. For the first assessed task, Alicia's posts had the highest score of the three learners, followed closely by Iris's main post for this task. Carolina's main post for CA2 scored zero as she made errors in every t-unit in this post. The accuracy in Iris's replies for the first assessed task (CA2) generally increased, except for in her final reply which scored zero. Iris's posts showed a noticeable increase in accuracy from the first to the final assessed task though, if we consider only her main posts. On the other hand, Alicia's main post for the final assessed task

showed a significant drop in accuracy compared to her post for the first assessed task. Finally, Carolina's posts showed a sharp increase in accuracy from the first assessed task, when they scored zero, to the final assessed task, but her replies for the first assessed task scored better than those for the final assessed task.

7.1.1.4 Fluency.

Figure 90 shows the results for all contributions of the three learners in terms of fluency, which, as we said earlier, is measured in terms of the average number of words per t-unit.

Figure 90. Fluency in all posts of the 3 learners across 3 tasks



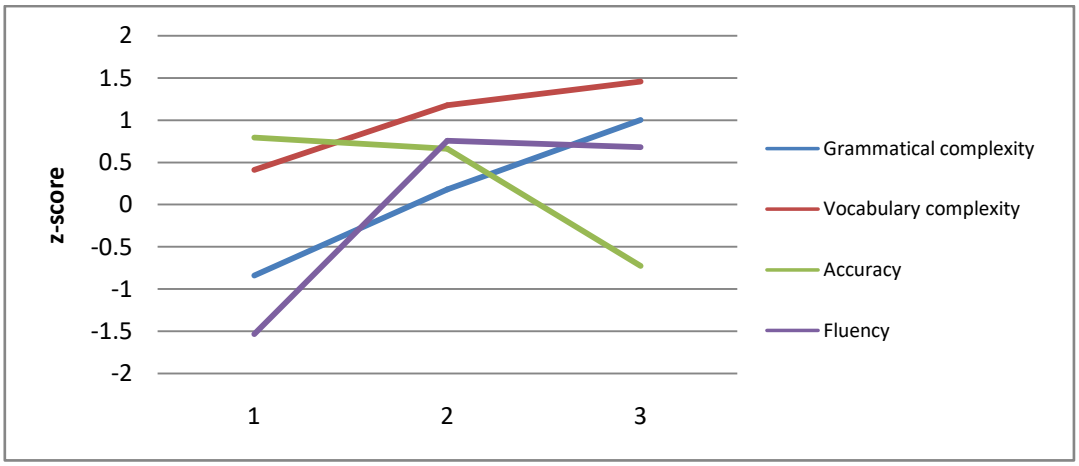
As we can observe in Figure 90, in terms of fluency, the three learners were very evenly scored in their main posts for all three tasks and it is in the replies that we can notice differences between them. The posts from all three learners show higher levels of fluency in the essays (CA2 main and CA6 main) compared to the main contributions for the warm-up task. This may be related to the nature of the tasks, and it may be an indicator that learners are attempting to construct longer sentences when writing essays. On the other hand, when we look at the results for the responses, all of Iris and Carolina's replies have lower scores for fluency. Alicia did not reply to any classmates until the final assessed task and in two of those replies, they got lower fluency scores than the main post did, although her final response scored the highest for fluency compared to any of Alicia's posts in the three tasks.

7.1.2 Intraindividual variability.

In the previous section, we compared the three learners' scores against each other but as Larsen-Freeman (2006) points out, intraindividual variability can help reveal language development processes. Therefore, the results for the main contributions for each learner were transformed to z-scores, a numerical measurement used in statistics to relate a particular value to the mean of a

group of values, and therefore provides us with measurements which be compared directly with each other. This calculation enables comparability across the four dimensions of grammatical complexity, vocabulary complexity, accuracy and fluency. In this way, we can observe how the individual contributions reveal (or not) the development of the learners' writing competence over the three tasks. The results for the responses to classmates are not included here because the three learners posted different numbers of responses but also, because we believe learners typically tend to focus their efforts on producing their best writing in the main essay contributions for each task. Figure 91 shows the results for Alicia, the learner whose marks went down over the course.

Figure 91. Intraindividual variability for Alicia's main contributions across 3 tasks



As we can observe in Figure 91, grammatical complexity in Alicia's posts increased significantly from the warm-up and through both assessed tasks but her accuracy went down, particularly for the final assessed task. The vocabulary complexity in her posts increased, but not all that much between the two assessed tasks. Her fluency increased significantly from the warm-up to the first assessed task but then decreased slightly for the final assessed task. Bearing in mind that Alicia got the highest mark of the three learners for the first assessed task and then went down for the final assessed task, these scores seem to confirm she was correctly assigned to the marks progression group she is in. While Alicia showed improvement in terms of producing posts which were complex in terms of grammar and vocabulary, the decrease in accuracy in her posts seems to have had an important impact on how her marks progressed over the course. In this sense, our findings seem to support Kol and Schcolnik's (2008) belief that learners' work in academic contexts often focuses on accuracy of the language used. In the following Excerpt 5, taken from the end of Alicia's first assessed task, we highlight in bold two typical errors for learners at this level.

Excerpt 5. Example from Alicia's first assessed task

Websites are not ready to provide this type of knowledge. **Neither it can't be** learnt how to be a good person. For this reason, it is important **to don't lose** the other essential part of the study, the people who are around you. I **might** just watch some cooking tutorials or webs.

As we can observe, firstly, she writes a double negative in: "**Neither it can't** be learnt". This phrase also contains an error with word order: "**Neither it can't** be learnt", which is more often dealt with at C1 level. Secondly, there is also an issue with a negative infinitive in: "**to don't** lose". Finally, her use of the modal "might" in the sentence shows evidence of a good command of grammatical structures at B2.

On the other hand, if we look at an excerpt taken from the middle of Alicia's final assessed task, as shown in Excerpt 6, we notice several types of errors which seem to indicate a level below B2.

Excerpt 6. Alicia: example from final assessed task

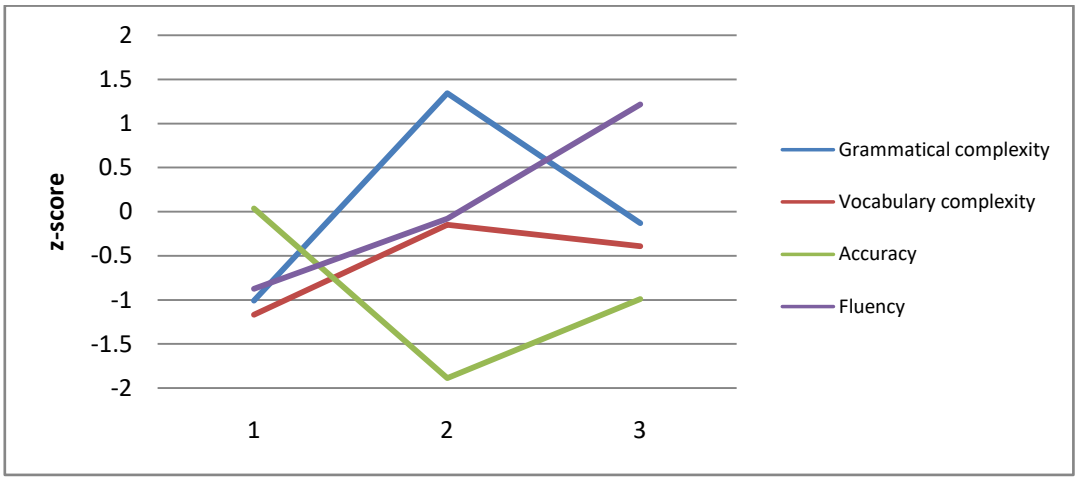
Therefore, it's important to **stablish** a limit and a control in this concept of liberty. Considering that nowadays we can see **things really offensive, provocative and controversial in our faces**, we **should censored** it to achieve a peaceful **live** between all.

In this case, we observe she struggles with word order when she writes the noun phrase: "things really offensive, provocative and controversial". We can also see she makes a spelling mistake when she writes "stablish"; this is an error which may be a 'typo' or it may be a sign of an emerging understanding of the pronunciation issue that many Spanish and Catalan learners of English have when pronouncing words which start with the consonant clusters "st" and "sp" and often add an "e" at the start of the word. For example, learners will often say "especial" instead of "special". In the case of the word "stablish" in Alicia's text, she has written the word "establish" without the "e".

Another error she makes is with the expression "in our faces", which is not really appropriate for an academic context. She also confuses the verb "live" for the noun "life", but this is again a typical error at this level. Finally, she makes an error with the modal "should", as she uses a participle instead of the infinitive form in "should censored", which contrasts with the correct use of the modal "might" in the first assessed task. In this case, Alicia seems to have confused the passive "should be censored" with the non-passive form needed here.

Carolina's results are shown in Figure 92. Carolina was the learner whose marks remained the same over the course.

Figure 92. Intraindividual variability for Carolina's main contributions across 3 tasks



As we can observe in Figure 92, the grammatical complexity in Carolina's posts increased sharply from the warm-up to the first assessed task but then dropped again for the final assessed task. Similarly, the vocabulary complexity in her posts increased between the warm-up and the first assessed task, but then decreased somewhat for the final assessed task. On the other hand, Carolina increased her fluency across the course but this corresponded with a decrease in grammatical complexity in her posts.

Carolina seems to be writing longer t-units, while at the same time, constructing fewer complex sentences. In terms of accuracy, Carolina's work showed considerable variability. While she did well in her warm-up task, accuracy went down in her first assessed task post; this is possibly because she attempted to employ much more complex language (as her scores for grammatical and vocabulary accuracy for the first assessed task indicate) than in the warm-up task. Her accuracy in writing increased again in the final assessed task, but this seems to have been at the expense of both grammatical and vocabulary complexity and overall, the results for Carolina seem to support her being in the marks-same group.

If we look at an example taken from the start of the Carolina's first assessed task post, as shown in Excerpt 7, we can see that she produced a sentence which was long and rather poorly constructed. There were several basic errors (e.g. "english", "i'm") which gave the impression of her being overly informal for an academic setting.

Excerpt 7. Carolina: example from first assessed task

I choose studying online **english** because I think that is a good point to **organize me** in time because **i'm** very busy during the week and the UOC offers me facilities to do all at the same time without stress.

In contrast, Carolina the beginning of her contribution in the final assessed is better, as shown in Excerpt 8.

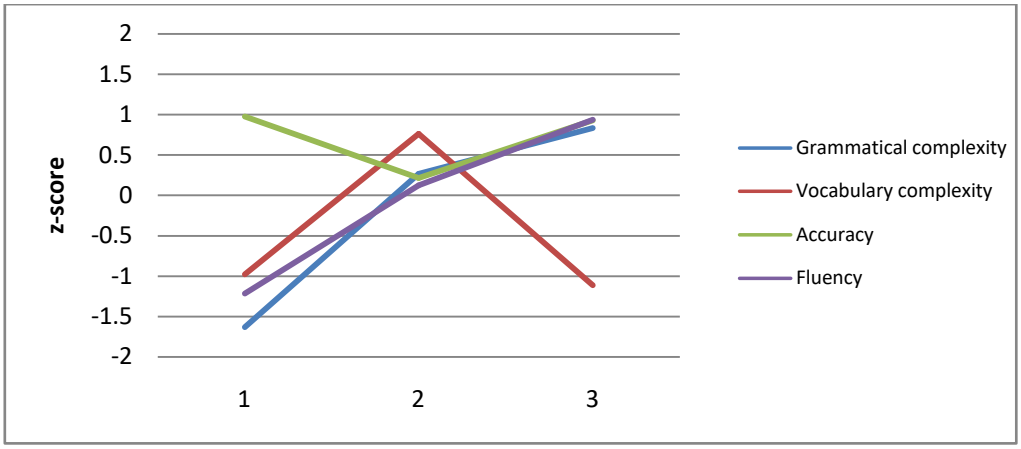
Excerpt 8. Carolina: example from final assessed task

Artists are from their countries and the work from them was created there. Their ideas and motivations for their art works were original in their homes or through the routine of their **lifes. Now a days,** you can see their art works in different museums around the world.

While in Excerpt 8 errors are still apparent, these relate to spelling mistakes ("lifes", "Now a days") and, the overall text seems to be written in a more academic style.

If we turn now to the scores for Iris, the learner whose marks increased over the course, we can see in Figure 93 that again, they are quite variable.

Figure 93. Intraindividual variability for Iris's main contributions across 3 tasks



As we can observe in Figure 93, grammatical complexity, vocabulary complexity and fluency in Iris's posts all increased significantly from the warm-up to the first assessed task, while accuracy in general went down between these two tasks. However, she continued to score better in all measures except for vocabulary complexity for the final assessed task so again, it would seem that Iris's scores support the marks progression she showed over the course. If we compare examples from Iris's first and her final assessed task posts, in the first task (shown in Excerpt 9), the clearest issue was a lack of punctuation to separate ideas.

Excerpt 9. Iris: example from first assessed task

I enrolled in an online English course. I **signed in** the **online university I thought** I could not do it. I thought I would not be able to **take my studies a day**

A punctuation mistake in Excerpt 9 can be seen in the second sentence: "I signed in the online university I thought I could not do it". The post also contains problems with lexis ("signed in" and "take my studies a day"); while the words she chose to use were comprehensible, they are not quite right. Excerpt 10 shows an extract from Iris's final task.

Excerpt 10. Iris: example from final assessed task

No one would like to live in a country that is not their own. Why do we allow this to happen with art? On many occasions we find works of art that **roam** the world, **exposed** in places that do not **correspond** to them or surrounded by other works of art that do not favor them.

As we can see, Iris's punctuation showed improvement but there were several lexical issues in her text, as she used words (e.g. "roam", "exposed" and "correspond") which do not collocate in this context.

7.1.3 Errors as signs of language development.

In sections 7.1.1 and 7.1.2, we have presented analyses of the three learners' work in terms of grammatical and vocabulary complexity, fluency and accuracy. Broadly speaking, the results seem to be in line with how the learners' marks progressed over the course. There are good indications that the teacher evaluated these three learners' work in a fair way, although accuracy, or incidence of errors, seems to be more closely related to their marks than the other measures of analysis. However, errors in learner work should be viewed as opportunities for, and indeed evidence of learning. As Lightbown and Spada (1999, p. 71) point out, "an increase in error may be an indication of progress". It is worthwhile noting here that in calculating the scores for accuracy following the CAF analysis method, only errors in t-units can be counted, yet, this does not include other communicative aspects which teachers take into account when assessing learners' written work, such as the effect the text has on the reader, task achievement, or adherence to genre-specific conventions. This issue is referred to by Pallotti (2009) who points out that the majority of studies which assess CAF for communicative tasks omit how successful learners were in achieving the learning objective, or how adequate they were in terms of achieving the task goals. As Pallotti (2009) goes on to explain, the fact that CAF studies generally fail to include these dimensions is in stark contrast to the way texts are dealt with in language teaching and testing. The marking criteria for the course which is the focus of study of the present research (see Appendix) reflects this organic approach. While they include descriptors for vocabulary and grammatical range and accuracy, they also highlight other key aspects for writing assessment: task achievement, comprehensibility and register, and cohesion, coherence and organisation. Despite this limitation to the CAF analysis

approach, it does seem to be a helpful instrument to follow learners' progress in terms of the complexity, accuracy and fluency of their writing.

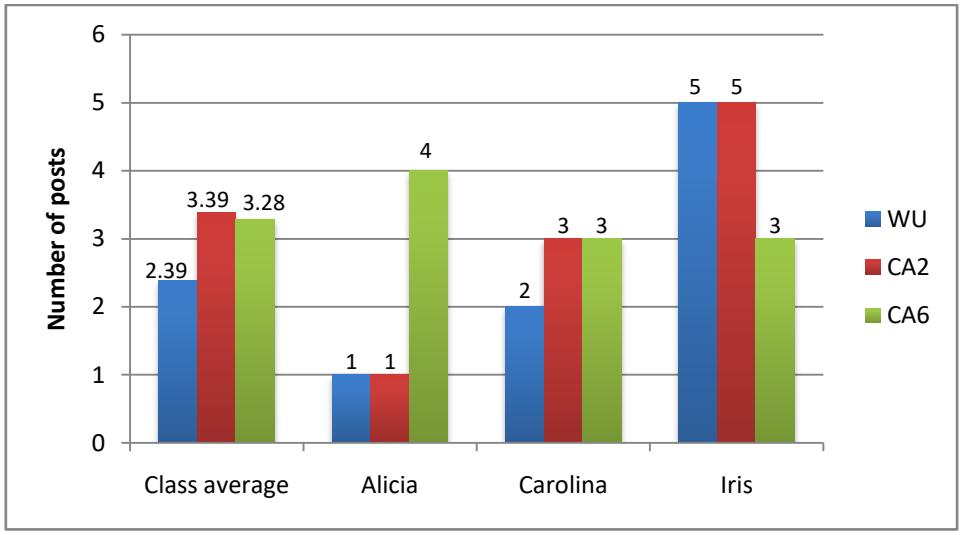
7.2 Behavioural Engagement in Three Learners

In this section, the results for participation and interaction for Alicia, Carolina and Iris are presented. We begin by considering their participation in the three tasks in terms of the number of posts, number of words, when they took an active part in the tasks and when they took part in them in a less visible way. We will relate these results to when other participants in the forum posted. Then we will move on to examine Alicia, Carolina and Iris's interaction by examining the number of posts received, the types of threads they were involved in and the number of different people they interacted with.

7.2.1 Participation.

We begin our analysis of behavioural engagement in this final case study by exploring participation of the three learners. Figure 94 shows the number of posts they sent to the forum for the three tasks and compare them to class average as a point of reference.

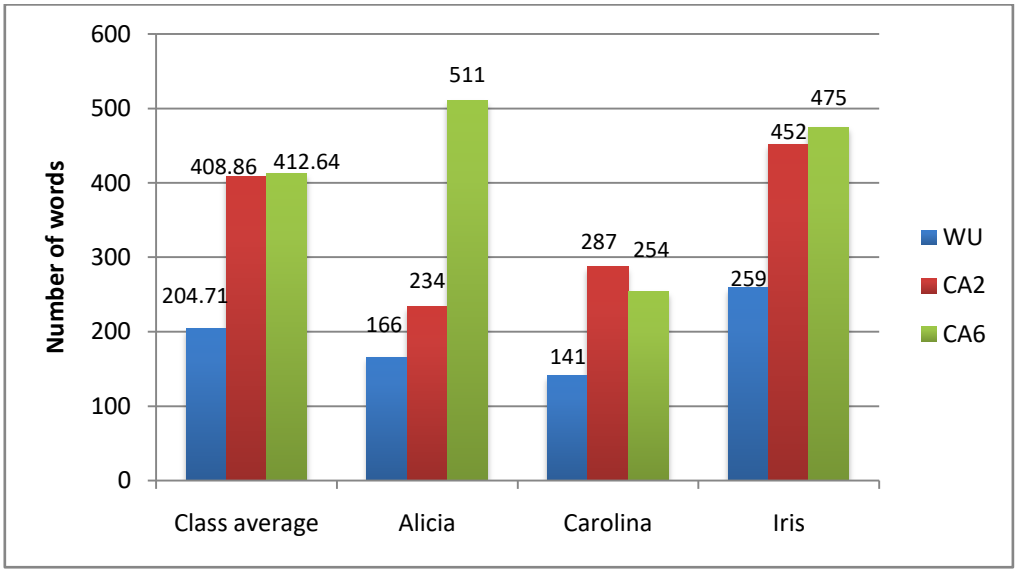
Figure 94. Number of posts for class average, Alicia, Carolina and Iris across 3 tasks



As we can observe in Figure 94, Alicia (from the marks-down group) posted well below the class average for the warm-up and first assessed task with 1 post for each, but this increased considerably for the final assessed task to above the average for the class with 4 posts. On the other hand, Carolina (from the marks-same group) posted twice for the warm-up and then 3 times each for the two assessed tasks, but she always posted slightly fewer posts than the average for the class. Finally, Iris (from the marks-up group) posted 5 times for both the warm-up and the first assessed task, before dropping to 3 posts for the final assessed task: she posted well above the class average for

the warm-up and first assessed task and slightly below the average for the final assessed task. Of the three learners, Iris took part in all three tasks above or within the minimum participation required for each task. Alicia took part very little until the final assessed task and Carolina posted the minimum required each time. In terms of the number of posts, bearing in mind we are only looking at the results of three learners, this measure of participation seems to support the marks progression groups they were assigned to. In terms of the amount of language produced, Figure 95 shows a similar pattern to the number of posts shown above in Figure 94.

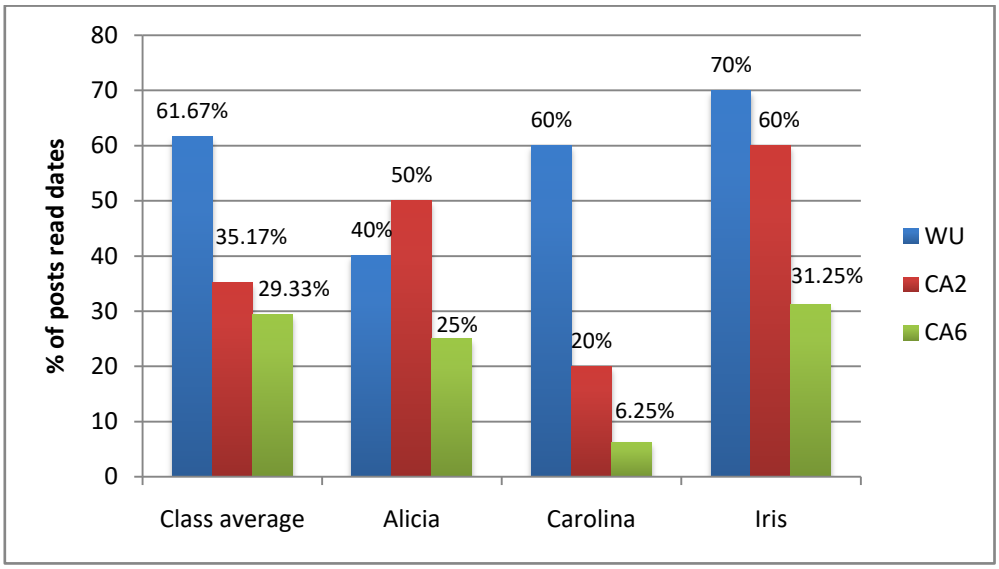
Figure 95. Number of words posted by class average, Alicia, Carolina and Iris across 3 tasks



As displayed in Figure 95, while there were differences between the three learners, all three produced above the minimum required for each task. However, Alicia wrote well below the class average for the warm-up and while she wrote more for the first assessed task than the warm-up task, the increase was not as marked as either Carolina or Iris. For the final assessed task though, she produced a dramatically higher amount of words, most likely overcompensating for her minimal participation earlier in the course. Carolina posted consistently fewer words than the class average, although her word count doubled between the warm and first assessed task and in the final assessed task, she posted slightly fewer words than in the previous task. On the other hand, Iris produced consistently more words than the class average in all three tasks, and she also increased consistently from one task to the next.

In terms of these three learners' less visible participation, as measured by the proportion of post read dates for each task, Figure 96 shows that Iris seems to have been reading more regularly than either Alicia or Carolina and this was consistent across the three tasks.

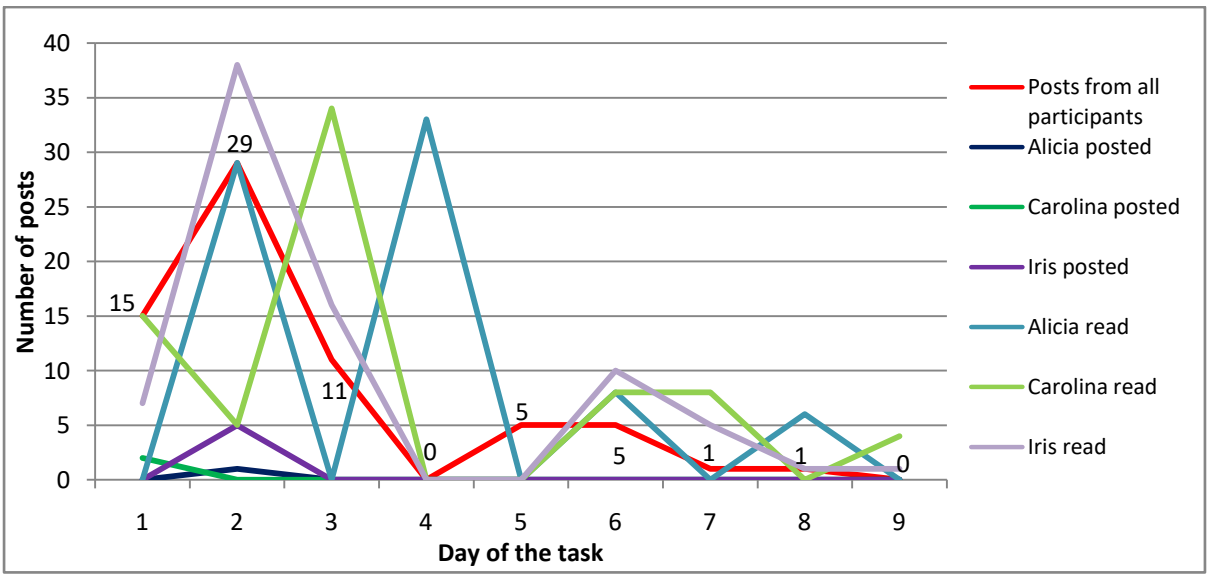
Figure 96. Proportion of post read dates by class average, Alicia, Carolina and Iris across 3 tasks



As we can observe in Figure 96, Alicia read posts less regularly than Carolina or Iris for the warm-up task, but then increased for the first assessed task before decreasing to below the class average for the final assessed task. Carolina read other posts very regularly for the warm-up task, but then read infrequently for the two assessed tasks; in both of these tasks, she read well below the class average. Finally, Iris's results were either slightly or well above the class average for all three tasks.

We examined when the three learners posted and read classmates' posts in the forum. Figure 97 shows the results for the warm-up task. This chart includes the total posts from all participants in the classroom, marked in red, with the total numbers of posts detailed for them.

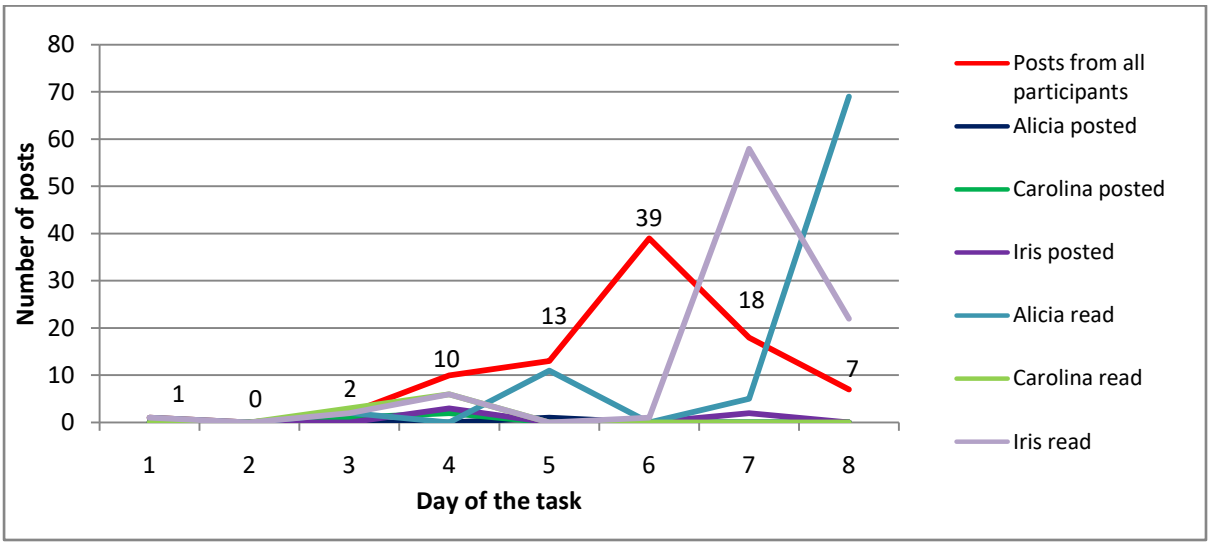
Figure 97. When Alicia, Carolina and Iris posted and read posts for the warm-up task



As we can observe, Days 1 and 2 were the busiest days, in terms of learners posting for the warm-up task. This decreased over the next two days to zero posts on Day 4. On Days 5, 6, 7 and 8, learners posted minimally. Alicia, Carolina and Iris only posted contributions on Day 1 or 2 of the task. However, they continued taking part in the task in a less active way, by reading classmates' posts. Alicia read every other day (4 out of the 10 days), Carolina read most days (6 out of the 10 days) and Iris read 7 out of the 10 days. The two days that neither Carolina nor Iris read (Day 4 and Day 5) were weekend days. On the other hand, Alicia read the most on Day 4 (Saturday) of the task.

If we look at the results for the first assessed writing task, the trend is quite different from the warm-up task. This is displayed in Figure 98.

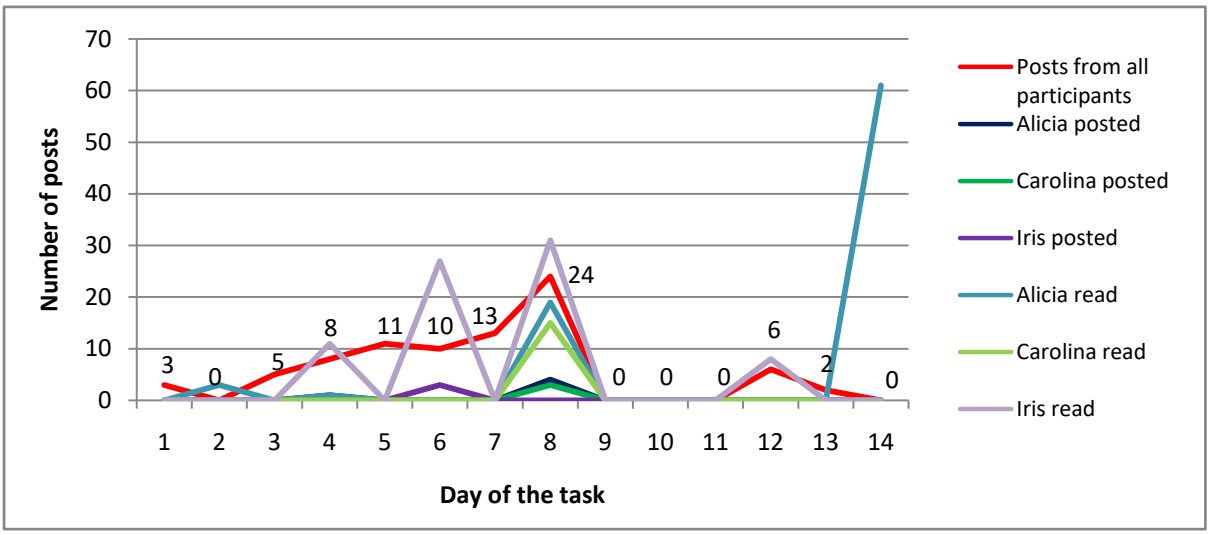
Figure 98. When Alicia, Carolina and Iris posted and read posts for the first assessed task



As we can observe in Figure 98, most learners posted for this task on Day 6 (Sunday), although there was some activity from Day 2 onwards. Alicia and Carolina posted earlier than the majority of learners, on Day 3 and Day 4. Iris, the learner in the marks-up group, posted over a longer period of time, on Day 3, Day 4, but also on Day 7. On the other hand, if we look at when these learners read posts for this task, Carolina read little and on very few days, while both Alicia and Iris read little for the first few days, but then increased sharply for the last few days. In fact, Iris read a lot of posts (58) on the last day she posted (Day 7) while Alicia read a lot of posts (69) on the last day of the task.

If we look at the final assessed task, Figure 99 shows that the majority of learners posted on the day that the task was scheduled to finish (Day 8).

Figure 99. When Alicia, Carolina and Iris posted and read posts for the final assessed task



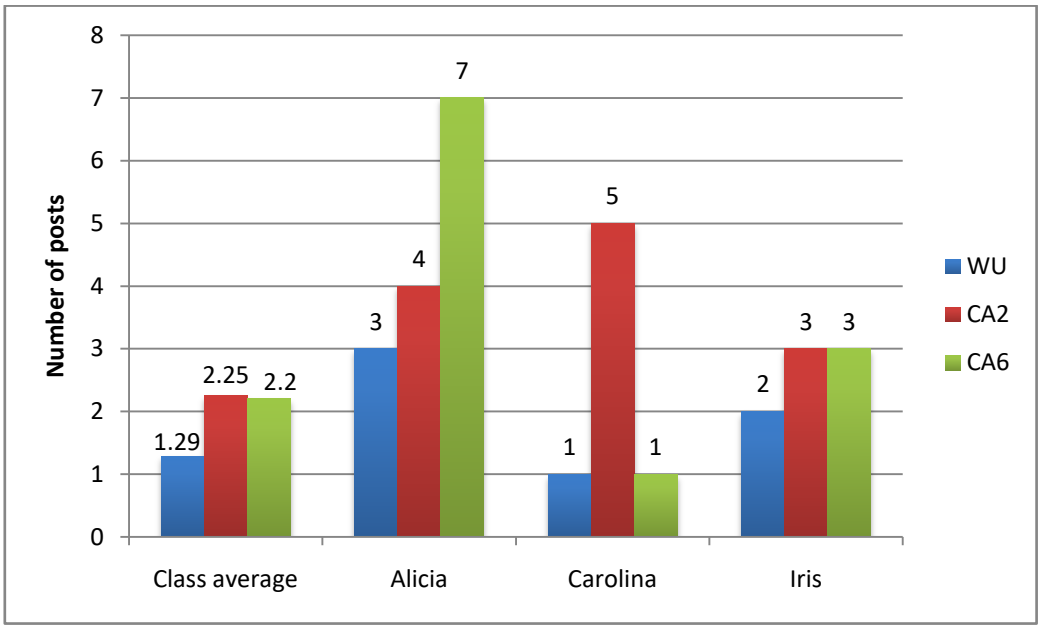
As mentioned previously, this task ended just before the Christmas break and learners were given a grace period during which they could still post, hence the task lasted over a week longer. Alicia posted on two different days (Day 4 and Day 8). Before posting, she read several posts early in the task. She then read a number of posts from classmates on the day she replied to others but at the end of the task, she read a high number (61) of the remaining posts. Carolina posted her 3 posts on Day 8 and also read some of her classmates' posts on the same day, so all of her participation for this task took place on one day only. On the other hand, while Iris only posted on 1 day, she read posts from her classmates with a similar frequency to how she read in the other two tasks. She read many of her classmates' posts both before and after posting her own contributions.

Overall, Iris followed a similar pattern across all three tasks: she was more consistently active than the other two learners and increased her behavioural engagement from one task to the next. Carolina, the learner whose marks stayed the same from the first to the final assessed task, also followed a similar pattern across the three tasks: she was generally contributing and reading minimally. Finally, Alicia, whose marks went down, seems to have shown the biggest change in behaviour over the three tasks: while she read and posted minimally in the first two tasks, she became more active in the final assessed task. In both of the assessed tasks, she read the bulk of posts at the end of the task.

7.2.2 Interaction.

In terms of interaction, Figure 100 shows how many posts Alicia, Carolina and Iris received from others, together with the class averages for each task.

Figure 100. Posts received by class average, Alicia, Carolina and Iris across 3 tasks



What is noteworthy here is that Alicia, the learner whose marks went down and posted minimally for the warm-up and first assessed tasks, received the most posts for the warm-up of the three learners and again for the final assessed task. Alicia received well above the class average number of posts. Carolina received the fewest posts from others for both the warm-up and final assessed tasks, but received the most posts from others and well above the class average for the first assessed task. Finally, Iris, the learner whose marks increased over the course shows a very similar pattern, albeit slightly higher, than the class average. These results seem to indicate that the number of posts received has little relation to the degree of participation learners show.

We now examine each thread the three learners were involved in according to thread length, depth and the position the learners' posts were in the threads, as shown in Table 18.

Table 18. Characteristics of threads that Alicia, Carolina and Iris took part in

Learner	Task	Thread length	Thread depth	Position in thread
Anna	**WU**	4	2	1st
	CA2	6	3	1st
	CA6	8	2	1st
		4	2	2nd
		3	2	2nd
		8	3	2nd
Carolina	**WU**	4	2	2nd
		2	2	1st
	CA2	3	3	2nd
		7	3	2nd
	CA6	8	3	3rd
		4	2	2nd
		2	2	1st
Iris	**WU**	4	2	2nd
		4	2	2nd
		4	4	1st, 3rd, 4th
	CA2	5	2	2nd
		7	3	2nd
		5	3	1st, 3rd, 3rd
	CA6	8	2	2nd
		4	2	2nd
		4	2	1st

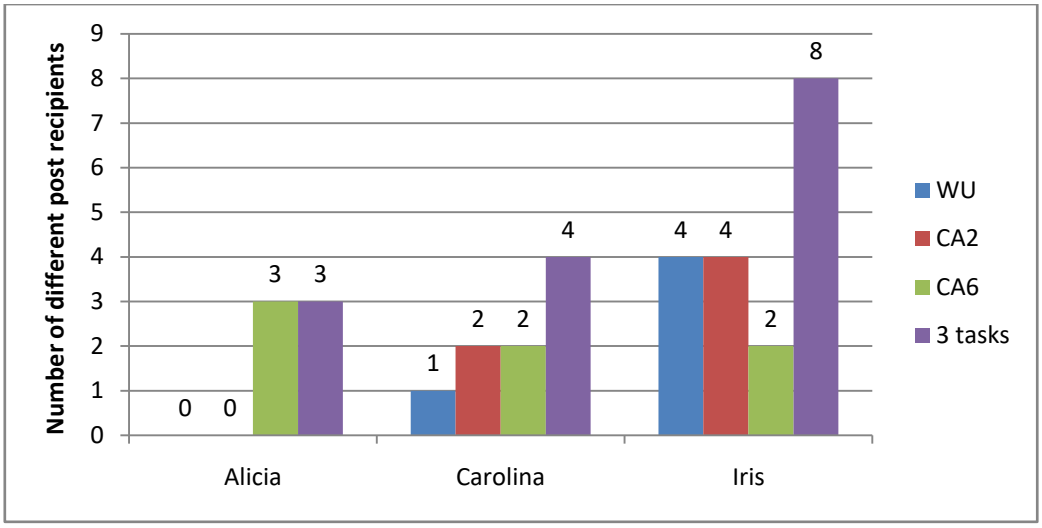
As we can observe in Table 18, Alicia was involved in six threads across the three tasks. As we have seen previously, she only posted once for the warm-up and first assessed tasks and her posts were the first in the threads, but in the final assessed task she was involved in four different threads, two of which contained eight posts. However, while these threads were longer than average, all except one was only two-deep; in other words, several participants replied to the first post, but there was no deeper-level interaction except for one thread which went to a three-level thread.

Carolina took part in seven threads across the three tasks; two in the warm-up and first assessed tasks and three in the final assessed task. The threads ranged in length from two to eight posts, but Carolina's role in these threads was similar to that of Alicia in that she either started the thread or replied to first-level threads. In one thread in the final assessed task, she replied to a reply, and therefore posted a third-level thread; however, on reading the content of the post, she is in fact

addressing the participant who started the thread. Finally, Iris took part in nine different threads: three in each of the tasks. The threads ranged in length from four to eight posts and in depth from two to four-level posts. Iris's role in these threads varied more than either Alicia's or Carolina's and on two occasions, she interacted several times in the same thread. These results seem to support the degree of interaction we have seen in the other measures for interaction.

Finally we examined how many different people Alicia, Carolina and Iris replied to. The results are shown in Figure 101.

Figure 101. Number of different people Alicia, Carolina and Iris replied to across 3 tasks



As we can observe, Iris interacted with a greater number of different people in the three tasks except in the final one. Carolina exchanged posts with only one other person in the warm-up task but then increased to two people for both assessed tasks. Alicia interacted only with 3 different people and given that she only replied in the final task, these were all in that one. The results here seem to confirm our previous findings for interaction: Iris was the most interactive of the three learners and this was particularly noticeable in the first two tasks (the warm-up and the first assessed task). Despite receiving fewer posts than Alicia for any of the tasks, Iris took part in more different threads and interacted with higher number of different people over the whole course. Our findings for interaction support those for participation where we also noted that Iris produced more posts and words, and read other participants' posts more often than the other two learners.

7.3 Emotional Engagement in Three Learners

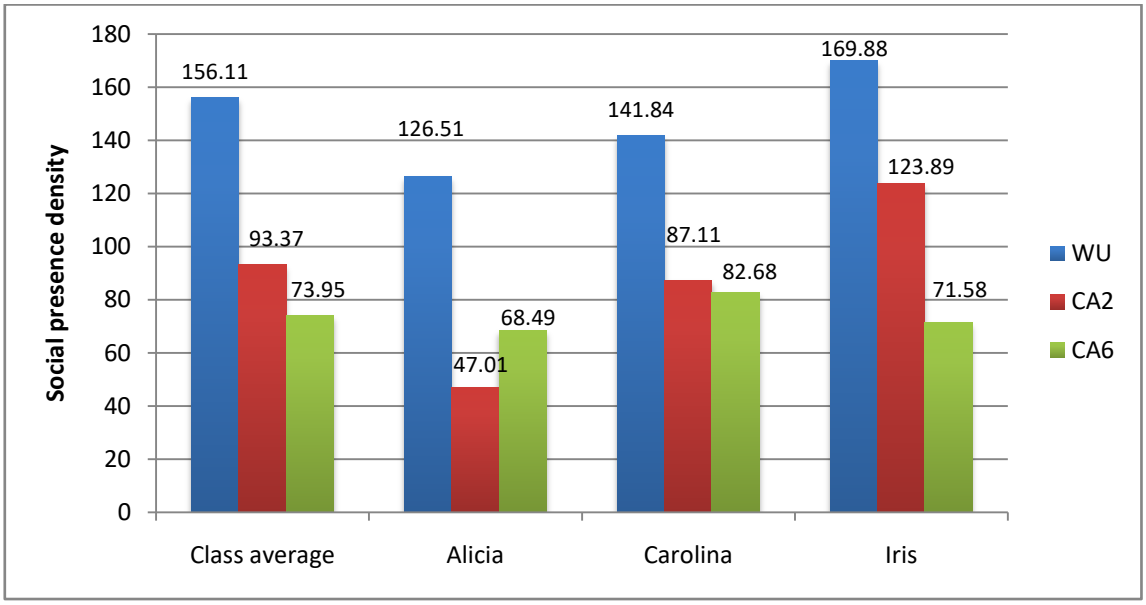
In this section, we present the findings for Alicia, Carolina and Iris in terms of their emotional engagement as shown in all of their posts for the warm-up and the two assessed tasks. We first

consider social presence density for the three tasks and then move onto analysing separately the learners' social presence density in their main contributions and their replies to other participants.

7.3.1 Social presence density.

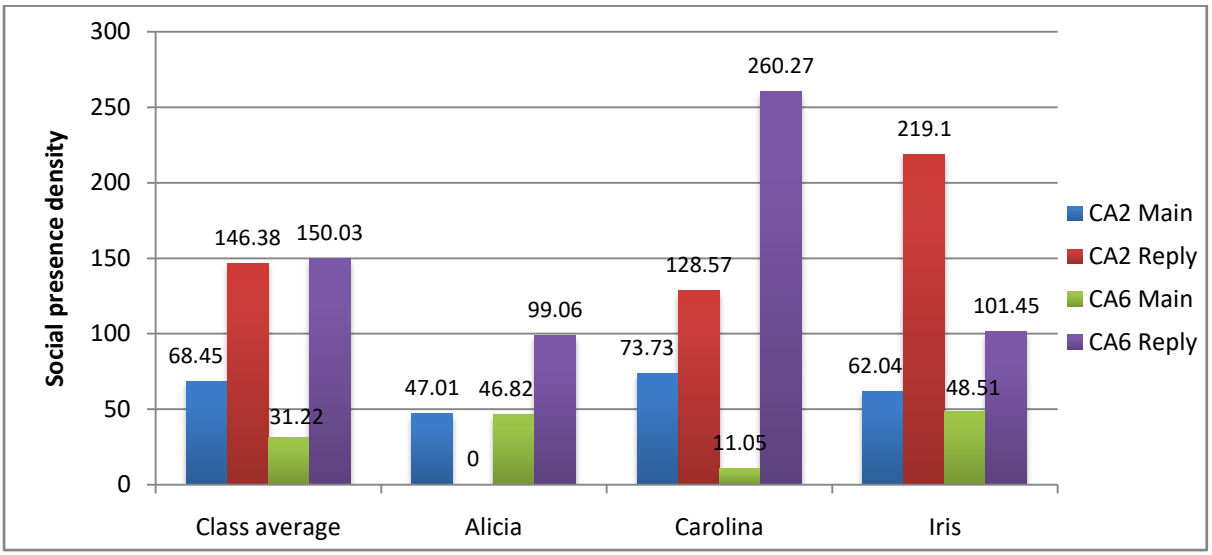
In terms social presence density across the three tasks, Figure 102 shows the results for Alicia, Carolina and Iris.

Figure 102. Social presence density for class average, Alicia, Carolina and Iris across 3 tasks



As we can observe in Figure 102, all three learners showed higher levels of social density in the warm-up task than either of the assessed tasks and this is in line with the differences in social presence across the tasks for the class average. However, the social density shown in their posts for the assessed tasks varied considerably among the three learners. In general, Alicia's posts showed the lowest levels of social presence of the three and they were also lower than the class average for all three tasks. Also, the social presence in her posts for the first assessed task was the lowest of the three although this increased for the final assessed task. In contrast, both Carolina and Iris expressed more social presence in the first assessed task compared with the final assessed task. Carolina maintained a similar level social presence in both assessed tasks, but Iris expressed far less social presence in her posts for final assessed task compared with the first assessed task. As we noted in chapters 5 and 6, though, putting all of the learners' posts together and analysing the level of social presence by task does not tell the whole story and we need to look at how they express social presence in their main posts and compare the results with those for replies. The results are shown in Figure 103.

Figure 103. Social presence density in main posts and replies for the 2 assessed tasks

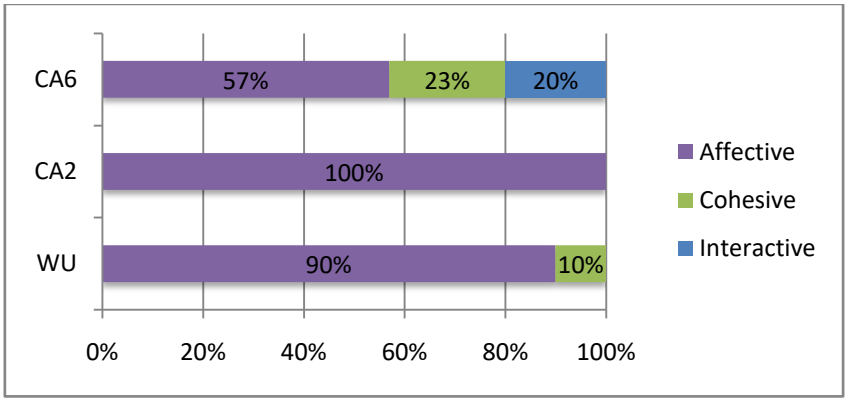


As we recall from the findings for case study 2, which were presented and discussed in Chapter 6, social presence density for all participants in the main posts decreased from the first to the second assessed tasks but increased slightly in replies to classmates between the two tasks. When we look at the three learners in case study 3, Alicia showed very similar levels of social presence in both assessed tasks, whereas Carolina's main post for the final assessed task had fewer instances of social presence than in her first assessed task and the same was true for Iris's writing in the main tasks. Alicia did not post any replies at all until the final assessed task, and so we cannot compare social presence between her replies for the two tasks. On the other hand, Carolina showed a huge increase in social presence in her replies to classmates from the first to the final assessed task, while Iris showed a significant decrease in social presence.

7.3.2 Types of social presence.

The nature of social presence instances in Alicia's writing varies considerably across the three tasks, as Figure 104 shows.

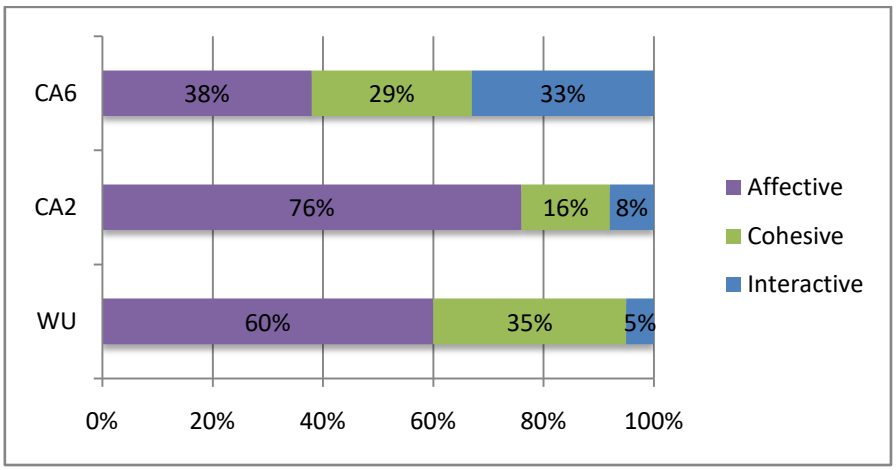
Figure 104. Types of social presence in Alicia's posts across the 3 tasks



As we can observe in Figure 104, in the warm-up task, Alicia used no interactive indicators at all and mostly used affective indicators, with a few instances of cohesive social presence. In her contribution, she mainly self-disclosed, which was entirely natural and in line with the task. Alicia also expressed value and emotion when talking about her feelings towards studying at the UOC. In the first assessed task, she exclusively used affective social presence, but as she did not reply to any classmates, this was not surprising. Alicia's writing for this task consisted of her views about learning online. Alicia did not start her main contribution with a greeting in this first assessed task. On the other hand, in the final assessed task, she posted her main contribution and also replied to several classmates, starting each reply with an introduction and naming the person she was replying to. In the final assessed task, she also expressed interactive social presence, but more than half of the instances of social presence were affective. In fact, in her main contribution for the final task, the essay, she mainly expressed value, but her writing also addressed the reader through questions. Asking questions is an interactive social presence indicator and therefore considered to be effective for engaging readers. In Alicia's replies to classmates, she focused on agreeing with her classmates but she also expanded her responses and offered her own opinion on the topics they had written about. As we will now see, Alicia's use of social presence shows a slightly different trend compared with the other two learners.

Carolina expressed the three types of social presence in her writing for the three tasks. In Figure 105 we can observe that she used varying proportions of teach type in each.

Figure 105. Types of social presence in Carolina's posts across the 3 tasks

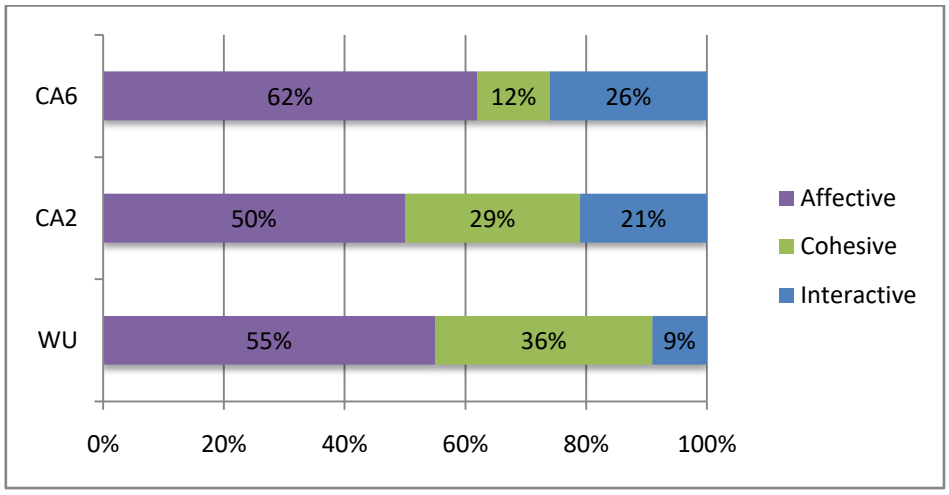


As shown in Figure 105, in the warm-up task, Carolina used very few interactive social presence indicators, but she did express affective social presence. In the first assessed task, her use of affective social presence increased significantly to over 75% of all of the instances of social presence.

Her use of interactive social presence indicators went up very slightly in this first assessed task, but her use of cohesive indicators decreased. In the final assessed task, the proportion of the three types of social presence was almost equal, with a notable increase in interactive social presence, but her use of cohesive indicators also increased again while affective social presence went down. Unlike Alicia, Carolina replied to classmates in all three tasks, but perhaps more crucially, Carolina received the most replies (5 posts) from classmates of the three learners in the first assessed task. It is interesting to note that in her contributions for the first assessed task, Carolina shared her personal experiences and expressed emotions by opening up and sharing her feelings of vulnerability about learning online and learning English in general. It is possible that other learners identified with what she wrote and this encouraged them to take part in a discussion about the topic of online learning with her, but to confirm this, we would need to ask learners how they choose who to reply to.

Iris's use of the three types of social presence also varied across the three tasks, as shown in Figure 106.

Figure 106. Types of social presence in Iris's posts across the 3 tasks



As we can observe, Iris used similar proportions of each type of social presence in the warm-up task compared to Carolina. However, in the first assessed task, her use of interactive social presence indicators increased considerably. She still used cohesive indicators, but her writing reveals slightly lower levels of affective social presence. In the final assessed task, she increased her use of affective social presence again and in fact this is the task where she expressed most affective social presence. Again, interactive indicators continued to increase while cohesive indicators decreased.

Comparing the results for the breakdowns of types of social presence for these three learners, they do seem to indicate that the most successful learner of the three, Iris, used interactive social presence from the start of the course.

7.4 Discussion about Case Study 3

In this chapter, we have narrowed our focus and explored learner engagement across three tasks from three individual learners from the group we analysed in case study 1 and 2 (classroom 1). Alicia, Carolina and Iris each achieved different learning outcomes, as represented by their individual marks progressions over the course. Our objective was to compare their levels of cognitive engagement, which we measured by carrying out a CAF analysis on their written posts to evaluate their language development, and examine their behavioural and emotional engagement across the three tasks. We now attempt to bring the results presented in this chapter together and discuss the relationship between the three dimensions of cognitive, behavioural and emotional engagement for Alicia, Carolina and Iris.

If we consider our findings for cognitive engagement, we can make two claims. Firstly, the three learners' showed differences in terms of language development and secondly, our CAF analysis seems to support the marks groups the learners were assigned to. Our findings partially align with those of Brandl (2012), who finds that accuracy increases when tasks are compulsory and not optional. The posts of all three learners in the warm-up task (which was not assessed, and by implication was optional) scored higher in terms of accuracy than the first assessed task. On the other hand, the fact that the three learners all obtained higher scores for grammatical and lexical complexity for their writing in the first assessed task than in the warm-up is encouraging, as it appears to be that they were "stretching" their language skills, although this led them to making more mistakes in their writing. We did note though that learners' main essay contributions scored higher in terms of complexity than their responses to others did and this leads us to conclude that learners might not be aware that their responses to others are also being assessed.

Alicia, whose marks decreased over the course, began with the highest mark of the three learners for the first assessed task (she got an A for this task) but then she obtained a lower mark for the final assessed task (she received a B for this task). In terms of complexity, both grammatical and lexical, the scores for Alicia's writing contributions increased between the first assessed and the final assessed task but at the same time, accuracy decreased considerably in the final assessed task. Interestingly, for the final task, Alicia increased her rate of posting and interaction and so this raises the possibility that as she wrote more extensively, then her attention to accuracy was affected. While high levels of interaction are considered to increase the effectiveness of distance education (Fulford and Zhang, 1993), Rodríguez-Juárez and Oxbrow, 2010 claim that student proficiency is unrelated to levels of participation. As Rodríguez-Juárez and Oxbrow (2010) suggest, higher level learners need to be made aware of the benefits extra practice can provide them and while Alicia did

increase her participation at the end of the course, it may have been too late to have a beneficial impact on her language development.

Carolina, the learner who maintained her level in terms of marks (her marks were C+ and C+) between the first and final assessed tasks showed considerable variability in her posts in terms of grammatical and vocabulary complexity from one task to the next, and there were marked discrepancies between the scores for her main contributions compared with her replies to others. As in the case of Alicia, Carolina's accuracy seemed to go down over the course although her fluency increased in her main contributions. This seems to support Larsen-Freeman's (2006) view that learner development takes place in a non-linear way and that individual language subsystems are competing for what may be limited resources, so that while one aspect of the learner's language may show improvement, another (or others) may not.

Iris, who began the course with a similar level to Carolina (she was awarded a C+ for the first assessed task) showed high variability in terms of grammatical and lexical complexity in her posts at the start of the course, but then her writing showed a steady improvement in grammatical complexity, although her posts show evidence that she continued to struggle in terms of lexical complexity towards the end of the course. Again, our findings confirm Larsen-Freeman's (2006) postulation in that Iris's grammatical complexity was developing at a different rate to her lexical complexity. Despite posting several replies to classmates, which scored minimally in terms of accuracy, her main contributions showed improvement in this respect, as did her level of fluency.

If we consider the results for behavioural engagement for the three learners selected for case study 3, our findings suggest that they were representative of their respective marks progression groups. Alicia, whose marks went down from the first to the final assessed task showed minimal participation and no interaction with others in the warm-up and first assessed task, but she increased her participation and interaction significantly in the final assessed task. She was the only one of the three learners who increased her rate of reading other posts for the first assessed task, but this is probably because her reading frequency was well below the class average for the warm-up task. Carolina, whose marks stayed the same over the course, consistently posted a little below the class average in terms of number of posts and the amount of language produced and showed the biggest decrease from one task to the next in terms of reading other classmates' posts. On the other hand, Iris was the most visibly active of the three learners and showed the highest degree of interaction of the three learners, particularly in the first two tasks (warm-up and first assessed). The most striking difference between Iris's behaviour across the three tasks compared with Alicia's and Carolina's performance, was related to the fact that she read her classmates' posts more regularly

than the class average for all three tasks. Although in this case study, we have only analysed in detail three learners, our findings in terms of behavioural engagement and marks progressions support what we concluded in case study 2: higher levels of participation, both visible and particularly less visible, early in the course seem to correspond with those learners who show more improvement in terms of marks.

The differences in the overall levels of social presence for the three learners were noteworthy. Alicia, whose marks went down over the course, employed lower rates of social presence than the class average and also in comparison with either Carolina or Iris. She was the only learner of the three to show increased levels of social presence in the final assessed task compared to the first, but this may be related to her not posting any replies to classmates at all until the final assessed task. Carolina, whose marks stayed the same over the course, employed slightly lower levels of social presence than the class average although shows the highest rate compared to Alicia and Iris in the final assessed task. On the other hand, Iris, whose marks increased over the course, used a higher number of indicators of social presence than the class average, and, also in comparison with either Alicia or Carolina. We cannot confirm whether there is a causal relationship between the three learners' results for social presence and their marks progress, but there do seem to be indications that of the three learners, Iris was more emotionally engaged, particularly during the first two tasks, than either Alicia or Carolina.

There are two issues we must bear in mind at this point. Firstly, as we have seen in case study 2 (see chapter 6) learners' writing generally revealed considerably higher levels of social presence in the warm-up task posts and in responses to main posts than in the main essay contributions in the two assessed tasks. As Alicia did not post any responses, this brought her overall level of social presence down. Secondly, as we noted in case study 2 (see chapter 6), when considering the results for the emotional engagement of all learners in classroom 1 over the three tasks, the first of the essay question options differed from the other two in terms of what learners were asked to write about. Of the three learners under analysis in case study 3, Alicia was the only one who chose the third essay question option, which was an opinion essay question. We have seen in case study 2 that lower levels of social presence were found in the final assessed task (which consisted entirely of opinion essay question options) and concluded that opinion essays were less likely to produce high levels of social presence than those which ask learners to share personal experiences, as in the case of the first essay option in the first assessed task. Carolina and Iris chose the first essay option, and, also, both posted several responses to classmates. This may explain why the level of social presence in their posts was far higher than in Alicia's. If we only compare the social presence results for

Carolina and Iris, it is still true that Iris expressed higher levels of social presence than Carolina. We therefore tentatively conclude that learners who express higher levels of social presence early in the course seem to improve their writing over the course more than those who do employ social presence to a lesser degree.

Overall, our findings do seem to confirm that there is a relationship between learners' behaviour, the amount of social presence they express and how much their language develops over the course. It also seems that learners' language development is also related to (a) how often learners read one another's posts, (b) their degree of active participation and interaction, and (c) high levels of participation in the early stages of the course.

In the next and final chapter, we will attempt to answer the research questions which guided this study. There are several key implications which our study has for learners and their teachers and we will present these in light of our findings. We will also consider the limitations of our study and suggest several areas for future research.

Chapter 8 Summary of findings and conclusions

In this final chapter, we will begin by summarising the findings in the context of the research questions which guided this study. Our findings have practical implications and, in this sense, we will offer and discuss recommendations for learners and teachers. This first section is followed by a reflection on the contributions this research has to the field of education and specifically online language learning in asynchronous discussion forums. Finally, we conclude by considering the limitations of the present study and suggesting possible avenues for future research.

8.1 What have we learned?

The overall aim of this research was to deepen our understanding of the relationship between learner engagement and language learning development in learners' writing contributions in the context of online discussion tasks carried out in asynchronous discussion forums. We also wanted to identify those aspects of behavioural and emotional engagement which correspond to increased language development so that we could make recommendations to learners and teachers on how to get the most out of the educational experience. In order to do this, we sought systematic methods to measure all three dimensions of learner engagement. As discussed in chapter 3, while previous research in learner engagement has found effective ways to observe behavioural engagement in online learning by measuring participation and interaction (for example, Pawan et al., 2003; Rienties et al., 2018), to tackle the dimensions of cognitive and emotional engagement in online language learning contexts has been more challenging. Studies which include emotional engagement have been limited to the study of learner perceptions of their own engagement (Dixson, 2010; Young and Bruce, 2011); consequently, our aim was to find suitable methods to observe both cognitive and emotional engagement. Drawing on a considerable body of research in the field of distance learning (for example Anderson et al., 2001, Garrison et al., 1999, and Rourke et al., 1999), we identified that the study of social presence could offer a great deal of potential to unveil learners' emotional engagement and therefore analysed the content of discussion forum posts to search for indicators of affective, cohesive and interactive social presence. For cognitive engagement in the context of a language learning course, our challenge was to find evidence of the extent to which language development was taking place. To this end, we grouped the learners according to how their marks for their written work had changed from the first assessed written task to the final assessed written task. We also wanted to confirm this approach by searching for evidence of language development in a small sample composed of three learners from the previous studied group and to this end, we analysed these learners' posts in terms of their complexity, accuracy and fluency (CAF analysis) to provide objective measures of language development.

Our research was comprised of three case studies. In case study 1 (see chapter 5), we compared the level of engagement of two separate classrooms in which learners carried out the same warm-up task. In case study 2 (see chapter 6), we reduced the number of participants and focused on one of the classrooms analysed in the first case study, but in this part of the research, we explored how the learners' level of engagement changed during their work for three tasks in the forum. Finally, in case study 3 (see chapter 7), we narrowed our scope yet again and examined the three dimensions of learner engagement in the forum posts of three learners from the classroom in case study 2. In this final case study, we also carried out an analysis of their posts to looking into the level of grammatical and lexical complexity, accuracy and fluency of their productions. In this case, we followed a method used by other researchers (see Larsen-Freeman, 2006, Norris and Ortega, 2009, and Ruiz-Funes, 2015, among others) as a way of exploring in more detail the learners' level of cognitive engagement.

Our research was guided by three primary objectives: (1) to compare how two groups of learners with the same teacher carry out a course warm-up task and highlight, if any, differences between the task-as-workplan and task-in-process in terms of learner engagement; (2) to establish whether learners with different marks progressions in one of the groups show differences in terms of their learner engagement over time; and (3) to identify differences in language learning development over the course between three learners who demonstrate different levels of behavioural and emotional engagement. Each objective was broke down into specific research questions. We now offer our answers to each question.

8.1.1 Case study 1: Learner engagement in the warm-up task in two classrooms.

As we have just said, the first objective of this research was to identify differences between how two groups of learners with the same teacher carry out the same course warm-up task. In our first case study, we took measurements of cognitive, behavioural, and emotional engagement and set ourselves two questions to answer: (1) How do two groups of learners compare in terms of engagement while they are carrying out the same course warm-up task?; and (2) To what extent are the marks progressions in two groups of learners related to their observed behavioural and emotional engagement in a warm-up task? We now answer each of these questions in turn.

1. How do two groups of learners compare in terms of engagement when carrying out the same warm-up task?

Our findings in case study 1 have shown that the two groups of learners carried out the same warm-up task in different ways. Both groups were given the same task instructions (task-as-workplan) by the same teacher and each group showed differences in terms of their engagement in the task at

hand. Firstly, we have seen that a higher proportion of the learners that were initially assigned to classroom 1 took an active part in the task than those in classroom 2. The task was unassessed and while a substantial proportion of learners took part in the task, between 20% and 28% of learners did not. This is cause for concern if one of the principal aims of the warm-up task is to create a sense of community among the participants to help foster an optimum learning environment (Zhao and Kuh, 2004). One of the main reasons why learners might not have taken part in the warm-up task is that they adopted what Lockwood (1995) refers to as a cost-benefit approach to their studying and took the decision to focus their time and effort at this early stage in the course on other areas of their studies rather than spending time on a task which had no bearing on their course marks. In this sense, we should strive to identify ways to explicitly point out to learners the benefits of taking part in the course warm-up task.

The learners who did take part in the task did so in different ways in the two classrooms. The participants in classroom 1 showed a lower level of participation in terms of the number of posts they sent, both in raw number of posts, but also when the number of participants was taken into account and the mean scores were compared. On the other hand, classroom 2 showed a greater variation in the number of posts participants sent, with several participants posting high numbers of posts. In terms of the language produced, the participants in classroom 1 posted a higher number of words, both overall when considering the raw numbers, but also when we adjusted this for the number of participants. When we analysed when participants took part in the task, we saw the two classrooms posted in similar ways, with a huge peak in posting early on in the task; however, while the participants in classroom 1 posted nothing at all on one of the days (a Saturday), the participants in classroom 2 continued to post, albeit at a more moderate rate. The participants in classroom 2 continued posting for several days more than those in classroom 1 and this had an impact on the proportion of days that participants read other participants' posts in each classroom, with classroom 1 showing a higher rate of reading. These findings are slightly different from Rovai (2001) who finds that all learners in his study make optimum use of the flexibility offered in online courses by accessing seven days a week, but given that the learners in our study were studying part-time over a longer period than in Rovai's study, this is not entirely unexpected, particularly for an unassessed task. Overall, the participants in classroom 2 showed more active participation than those in classroom 1. In terms of interaction, classroom 2 showed a higher rate of interaction and this was confirmed in the results for the total number of interactions, the length and depth of threads and the number of different participants they replied to.

At the same time, the participants in classroom 2 expressed higher levels of social presence in the warm-up task than those in classroom 1 and when we compared the proportions of affective, cohesive and interactive social presence, we also found several pertinent differences. The participants in classroom 1 showed higher proportions of cohesive social presence and correspondingly lower proportions of affective social presence. Satar and Akcan (2018) claim that affective social presence is crucial for establishing socio-affective bonds among participants and in this sense it seems that the participants in classroom 1 were slightly less successful in establishing a stronger sense of community during this initial task. However, when we compared the breakdowns for each type of social presence between the two classrooms, we found them to be similar to each other with only subtle differences. The task instructions indicated that participants should share personal information and identify similarities with each other. In this sense, the participants in classroom 1 more openly expressed personal values slightly more than those in classroom 2, while the latter shared personal information slightly more than the learners in classroom 1. Karppinen (2005) claims that for learning to meaningful, one of the requirements is that it must be conversational and in this sense, the warm-up task seems to have successfully provided participants with the opportunity to converse with each other. In terms of interactive social presence, the results for both classrooms were very similar with the majority of instances coming from referring to other's messages or asking questions; however, the proportion of interactive social presence in this initial course warm-up task was very small in both groups. This last point confirms the postulations of researchers such as Swan (2002, 2003), who suggests that interactive social presence is more likely to be found later in the course, once the group has become established.

We did not set out to evaluate the warm-up task itself, but it does seem to provide learners with the opportunity to take part in a meaningful learning experience. In this sense, it fulfilled the six characteristics of meaningful learning identified by Karppinen (2005): the task encouraged learners to be active and the nature of the forum interaction allowed learners to construct their own meanings and build on what others had written. The learners were collaborating on a task which aimed to foster a sense of community and they were involved in a dialogue. Each learner was able to write about what they felt was important to them and so their learning was context-related. The teacher took part, and while he posted at a slightly higher rate than learners in both classrooms, he did not dominate the discussions taking place and avoided becoming the centre of all discussions. He gave way to student-student interactions (Rovai, 2007) and this laid the foundations for a classroom dynamic on which the rest of the course could be based. Finally, the task involved learners emotionally as they shared details about their lives with each other. Furthermore, by asking learners to identify similarities with others in the second part of the task, learners also had an authentic

reason to read one another's posts, to find out more about each other, but it also encouraged them to establish a sense of community in which they could feel safe using their English in a friendly environment. The majority of the learners in both classrooms demonstrated their willingness to engage with one another and with the task and this led them to work together to create a climate for effective communication to take place (Mercer and Dörneyei, 2020).

From our findings, we draw three principal conclusions. Firstly, asynchronous forum warm-up tasks provide an excellent opportunity for learners to express themselves using high levels of social presence. This type of communication allows participants to project themselves as real people in an online context, and fosters group cohesion, both of which have positive benefits for learning. In addition to this, course warm-up tasks which resemble subsequent assessed tasks give learners the chance to become familiar with the technology and the types of participation and interaction which will be used in assessed tasks. Secondly, different groups of learners react to the same conditions (learning environment, task and teacher) in different ways; and thirdly, each individual learner will find their own meaning, and indeed relevance (or not) of the task. There may be some learners who take an active part in the course warm-up task and subsequently drop out, but it is equally possible that other learners do not to participate in the warm-up and then follow the assessed tasks well. These findings confirm what Alberth (2011) notes in terms of different groups of learners reacting to identical tasks in differently, even when they are working with the same teacher. We also concur with the findings of Heiser, Stickler and Furborough (2013), who claim that learners acquire technical skills most effectively through active learning. In our case, learners became familiar with the specific functionalities of the asynchronous discussion forums used on the course as they carried out the warm-up task.

There are several implications these findings have for online educators, including teachers and course and task designers. Firstly, course warm-up tasks are crucial for creating the optimum conditions for learning to occur. We would suggest that these low-stakes tasks should resemble subsequent assessed tasks and we would also recommend that course warm-up tasks include an authentic reason for learners to read one another's posts; for example, to find out what they have in common with others as in the case of the warm-up used in this study. However, we would also encourage teachers to make the reasons for reading other participants' posts explicit in terms of how this can benefit their language learning. Secondly, we recommend that course warm-up tasks involve learners sharing personal experiences, as these types of tasks naturally encourage participants to employ indicators of social presence, which, as we have seen, are considered a pre-requisite for group cohesion to occur. What is more, carrying these kinds of tasks allow learners and

the teacher to get to know one another, which will facilitate the creation of a sense of community in the virtual classroom. Thirdly, teachers need to take care not to draw conclusions about the level of engagement of individual learners, based on their participation or not in course warm-up tasks alone.

2. To what extent are the marks progressions in two groups of learners related to their observed behavioural and emotional engagement in a warm-up task?

With this second question, we sought to find out the extent to which learners' behavioural and emotional engagement in the course warm-up task are related to their marks progressions over the course. By grouping the learners in terms of how their marks progressed over the course, including learners who did not complete the course and also learners who only took part in the unassessed task, we were able to analyse how a range of learners participated and interacted. Learners' active participation tells part of the story in the sense that those learners whose marks were maintained or improved over the course tended to post more, although not necessarily in terms of the number of words. However, we also found active participation in the warm-up in learners who did not go on to complete the course. This might be explained by remembering that our learners are individuals who may have a great many influences on them, including those that Kahu (2013) refers to as 'structural', such as family or work commitments, or pressures from other academic subjects, which lead them to prioritise their time and effort in other areas of their lives (Lockwood, 1995). There remains the possibility that they simply felt disengaged from the task but the only way to confirm this would be through further investigation and asking learners about this.

We also found that learners who took part in the warm-up but did not take part in any of the assessed tasks at all (non-starters) read almost as often as learners who maintained or improved their marks over the course. It is possible that these learners were struggling with the level of the course or that they were unable to cope with the amount of reading in the forum, which is one of the issues Guzdial and Turns (2009) suggest as being problematic in forum tasks, but in order to confirm this, further research would be needed. We did find that these learners received the lowest number of posts from others but we would need to ask all learners about how receiving (or not) replies from others affected them in order to validate the impact receiving posts from others has on posting rates. However, we would encourage both teachers and learners to monitor initial posts which go unanswered and do their best to include these learners in the discussion by replying to them. Learners in the non-starters group tended to read classmates' posts at least every other day during the course warm-up period and it is possible that if they received replies from other participants, they might continue in a more active way and complete the course. The higher rate of

posting has an impact on their overall number of interactions with other participants although our results for the number of posts participants received show considerable variation and in some cases, learners who did not complete the course received more posts than learners who did. In this sense, the relationship between receiving replies in the warm-up task and marks progressions remains unclear and the only way to know more is through further research.

We were also able to look at how groups of learners with different marks progressions expressed social presence, as the measure we used explore the emotional dimension of engagement. Learners whose marks were maintained or improved over the course were more likely to express higher levels of social presence in the course warm-up task. At the same time, we also found that learners who did not continue with the course also expressed quite high levels of social presence in the warm-up task. In terms of specific types of social presence indicators, learners whose marks were maintained or improved over the course seemed to express slightly lower levels of affective social presence and instead, expressed slightly higher levels of interactive social presence. It seems that by referring explicitly to other participants' messages, asking them questions and expressing agreement with what others had written, these learners were expressly showing their emotional engagement with each other. Whether this is directly related to their positive marks progressions is a hypothesis we would want to follow up on in the future.

We have seen that when considered together, learners' behavioural and emotional engagement are related to a certain extent to how learners will progress later in the course. There is also evidence to confirm that participation alone is not a guarantee of individual learner success, but neither is learners being emotionally engaged at the start of the course a clear indication that they will complete it. These findings confirm Karppinen's (2005) characteristics of meaningful learning: that learners need to be active, which in the context of an online discussion forum means taking part by posting regularly. We also confirm what Delahunty (2018) finds, in that participants need to demonstrate that they are "listening" to each other, by reading one another's forum posts critically and following up by replying to others. However, behavioural engagement measures such as participation levels alone are not accurate predictors of learners' success, which is in line with the findings of Henri (1992) and Lowes, Lin and Wang (2007). When combining the behavioural engagement results with those for emotional engagement, though, we do believe that learners who were most successful in terms of their marks progressions later in the course were more consistently expressing higher levels of social presence, while at the same time being more active in the forum.

The principal implications our findings have for online educators are three-fold: firstly, it is possible to observe and analyse behavioural and emotional engagement in a course warm-up task and

secondly, to a certain extent, the results of these measures can be helpful predictors of how learners' marks will change over the course. However, we need to bear in mind the caveat noted in our answer to the previous question, where we pointed out that it may be the case that not all learners will take part in the course warm-up and conversely, learners who do take part may still drop out later in the course. In the majority of cases, early patterns of participation and interaction, and levels of social presence used by learners in a course warm-up can indicate how learners' marks are likely to change in subsequent assessed tasks over the course. For this reason, teachers should monitor learners' participation in course warm-up tasks and be proactive in fostering learners' participation in them. Teachers in online settings should track learner participation and follow up on learners who do not take part, by pointing out the benefits that participation can have in relation to the course learning objectives. Thirdly, we would argue in favour of explicitly teaching learners the effect that incorporating interactive indicators into their writing can have on how their writing is read by others in asynchronous discussion forum contexts. Many language courses, including the one in the present research, address the aspect of considering the effect that different types of writing have on the reader. Adapting this approach to online writing contexts and teaching the use of interactive cues in online environments such as discussion forums will almost certainly have a positive impact on learners' language development.

8.1.2 Case study 2: Learner engagement across three tasks.

In the second stage of our research, our objective was to establish whether groups of learners with different marks progressions from one of the two classrooms analysed in the first case study showed differences in learner engagement while they were carrying out three tasks at different points in the course. We asked three questions which will now be addressed in turn: (3) How do learners' observed behavioural and emotional engagement evolve from the start to the end of the course?; (4) How do changes in learners' observed behavioural and emotional engagement from the start to the end of the course relate to how learners' marks change during this time?; and (5) How does learners' observed emotional engagement vary when learners write an essay compared to what they do when they take part in the ensuing asynchronous discussion about their own essay and their classmates' essays?

3. How do learners' observed behavioural and emotional engagement evolve from the start to the end of the course?

We have seen evidence of patterns of behavioural and emotional engagement across the three tasks and these differences are particularly pronounced when comparing the unassessed course warm-up task with the two assessed tasks; thus, assessment seems to be a key issue. This finding is in line

with Alzahrani's (2016) and Rodríguez-Juárez and Oxbrow's (2010) which demonstrated that assessment is a critical factor affecting student participation in online forums, with learners participating more in assessed tasks than in unassessed tasks. We noted a significant increase in the number of words participants posted when we compared the unassessed warm-up task and the two assessed tasks. We also found that the timing of when participants took part in the tasks changed considerably depending on whether the task was assessed or not; this is to be expected as for the assessed tasks, learners are encouraged to spend several days working on the self-correcting exercises before posting their work to the forum. It was particularly interesting to note that the majority of learners posted their work within the scheduled time period but there were also those who continued posting after the task had officially finished, which seems to indicate that learners take the minimum requirements and assessment rubrics in the task instructions seriously. This is in line with the postulations of Garrison and Cleveland-Innes (2005) and Rovai's (2007) regarding the importance of providing learners with clear rubrics which include quantitative posting requirements, so that they know exactly what is expected of them for each task. The assessed-unassessed dichotomy continues for the frequency with which participants read one another's posts in the forum. We can conclude that the relevance of reading others' posts for language development is not clear enough to learners because, while on average, participants read at least once every other day during the course warm-up task, this dropped to once every three days for the first assessed task and then went down again for the second assessed task. The second decrease may be related to the task continuing for longer, but the lower reading frequency was still significant. It is also possible that an increasingly strategic approach to time management may be an inevitable, but not necessarily, negative trait in adult learners as this may be a sign of learner autonomy (Murray, 2014). In terms of interaction, our findings indicated that the learners were paying close attention to the task instructions, particularly for the first assessed writing task.

We also noted that the assessed tasks both showed higher levels of interaction among the participants than in the warm-up task in terms of total number of interactions; there were also longer and deeper threads and participants replied to a higher number of different people. According to Meyer (2003), more interaction can lead to increases in writing proficiency and Bratitsis and Dimitracopoulou (2006) argue that length and depth of threads can indicate higher quality threads. The first assessed task showed the highest levels of interaction across the three tasks and this would indicate that participants were following the task instructions closely, particularly for the first assessed writing task. The slight decrease in total number of interactions and thread length for the final assessed task is somewhat countered by the mixed results in the other interaction measures and do not seem to indicate a significant change.

Turning to the changes in emotional engagement across the three tasks, which are measured in the present study through quantitative content analysis of the posts, we found that overall levels decreased over the course, with a significant drop between the unassessed warm-up task and the first assessed task. We believe this decrease in overall social presence to be mainly related to the nature of the tasks, and not specifically due to the assessment factor. We support this assertion because of the differences in the indicators for the three types of social presence that we found, but also due to where we found social presence. We will comment further on the second point when we answer question 5, which focuses on differences between main posts and responses. Firstly, though, in terms of the changing types of social presence, our findings are in line with Swan's (2003) viewpoint in that in online learning, the proportion of interactive social presence increases considerably over the course and after initially rising, affective social presence decreases in the final part of the course. We concur with Swan's explanation for this: learners rely less on affective and cohesive social presence as the course progresses, mainly because they come to realise the relevance of linking their own ideas to those of others. In our case, despite the fact that there were no differences between the two assessed tasks in terms of how learners were instructed to interact with one another, the proportions of the three types of social presence were quite different between these two tasks.

On the other hand, our more detailed analyses of the specific indicators for each type of social presence seemed to show differences which were more related to the nature of the three tasks. For example, the changes in the specific indicators for affective social presence showed that in the warm-up task, which asked learners to share information about themselves and identify aspects in common with others, nearly half of the instances of affective social presence were self-disclosure. In the first assessed task, where most learners chose to write about their experience with online learning, self-disclosure represented approximately a quarter of the instances, but half of the instances came from learners expressing value, especially because learners were writing opinion texts. On the other hand, in the final assessed task, where all of the essay questions asked learners to express their opinions, expressions of value made up over three quarters of the instances of affective social presence. The results for cohesive social presence also changed but they do not seem to be as closely related to the nature of the tasks. Rather, they seem to be more linked to the changing dynamic in the community of learners: for example, from one task to the next, participants in our study used vocatives increasingly, while at the same time they were using fewer inclusive pronouns because they directed their responses to specific participants instead of to the group as a whole.

The posts of the learners also showed changes related to the use of indicators of interactive social presence which may be linked to the nature of the tasks again; referring to other's messages was an indicator that decreased considerably after the warm-up task, where participants were identifying common aspects with others. However, the indicators which showed particularly interesting changes were asking questions and complimenting and showing appreciation. Participants asked each other questions in the warm-up, as suggested in the task instructions and they did this again in the first assessed task, but far less than in the warm-up. The use of this indicator increased again for the final assessed task, despite the fact that learners were not specifically asked to do so in the task instructions. This may have been the result of participants feeling more open and confident with one another and therefore able to ask questions to one another. On the other hand, participants complimented and showed appreciation of one another's posts very little in the warm-up task, but then this procedure was used quite a lot in the first assessed task which seems to indicate a higher sense of confidence among the community. Finally, whereas learners' posts contained no instances at all of participants showing disagreement in the warm-up task, there were two instances in the first assessed task and then four instances in the final assessed task. The nature of the warm-up task explains why it was unlikely for participants to have anything to disagree about; on the contrary, both assessed tasks presented participants with opportunities for doing so because in them, learners were asked to express their opinions on particular topics. The fact that participants rarely expressed disagreement may be a sign that they were doing their best to maintain a sense of harmony (Tsai and Kinginger, 2014) and the fact that the number of instances of disagreement increased in the final assessed task, albeit very slightly, may be further evidence that participants felt more confident to express themselves more openly at the end of the course.

There are four principal conclusions we draw from our findings which have implications for online educators. Firstly, learners' engagement changes over time, but the changes are particularly pronounced when comparing tasks which are assessed with those that are not. Secondly, tasks which instruct learners to share personal experiences seem to lead to higher levels of social presence than those which involve learners writing about their personal opinions. For this reason, we would encourage course designers to ensure that the first assessed course task is focused on learners sharing personal experiences. As a coordinator of the course in this study, I will be making recommendations to the course team to modify our questions with this in mind. In addition, if this task is scheduled to take place shortly after the course warm-up task, this type of task is more likely to continue the process of creation of an optimum learning environment. What is more, for any learners who do not take part in the course warm-up task, they will still be able to take part in a task which encourages higher levels of social presence early in the course. Thirdly, the relevance of

reading others' posts needs to be made explicit to learners, particularly in the case of language learning contexts. In the course studied in this research, these reasons were implicit in the task instructions, and so we will be suggesting modifications to the instructions in future iterations of the course. Furthermore, all tasks (assessed and unassessed) should require learners to read a minimum number of classmates' posts and follow this up with a response. In this way, learners will have the opportunity to write in a more conversational and emotionally engaged (and engaging) way, compared to their more formal writing assignments. These types of contributions will contribute to fostering a cohesive community, which in turn will encourage learners to participate and interact more with one another.

4. How do changes in learners' observed behavioural and emotional engagement from the start to the end of the course relate to how learners' marks change in this time?

We have seen that learners' behavioural and emotional engagement changed over the course, but when we focused on differences between learners in the different marks progression groups, we also noted that different groups changed in varying ways. In terms of active participation, learners whose marks went up over the course increased the amount of posts they sent and the number of words they posted more than learners in any other group. They also read posts in the forum on a higher proportion of possible days than most learners in other groups for all three tasks, and in the two assessed tasks these learners were the ones who posted the most. In terms of interaction, they had more interactions with others in the forum for the warm-up and the first assessed task, although they interacted slightly less than the learners whose marks went down in the final assessed task. This may be due to the fact that the learners in the marks-down group were making a final effort at the end of the course to be more active. When we looked at social presence density expressed by learners in the different marks progression groups, we saw that those students whose marks remained the same or increased over the course expressed the highest levels of social presence in the forum, except in the final assessed task, when again the learners whose marks decreased scored slightly higher than the learners in other groups, possibly for the same reason again: they were making a final effort in the last assessed task in the course. We will consider in more detail the differences we found in social presence in main contributions and in replies to others according to the marks progression groups in our answer to question 5 in the next section.

Another area where we found differences between the groups was in the proportions of the three different types of social presence. Given that the non-starters group only took part in the warm-up task, we can only say that the proportions of affective, cohesive and interactive social presence for the learners in this group were similar to the learners in the non-finishers group and the learners in

the marks-same and marks-up groups. On the other hand, the scores for learners in the marks-down group were the most discrepant of all the groups for the warm-up task in that the learners in this group expressed a much higher proportion of affective social presence and a much lower proportion of cohesive social presence than the learners in any of the other groups. However, the marks-down group only included two learners and so we cannot draw firm conclusions here. When we consider the three groups who took part in all three of the tasks though, we did see that the learners in the marks-down group continued to express different proportions of the three types of social presence compared to the learners whose marks remained the same or increased over the course. The learners in the marks-down group seemed to rely far more on affective social presence in the first assessed task than the learners in either of the other two groups. Additionally, the marks-down group gradually increased the proportion of interactive social presence, but not as much as the learners in the other two groups. The learners who did best, because their marks remained stable or progressed over the course, incorporated interactive social presence to a greater degree than those whose marks decreased over the course. We believe this may be inter-related with learners' language development: the more learners become accustomed to writing in the medium of the asynchronous discussion forum, the better they overtly express their interaction with others by incorporating interactive social presence indicators in their posts. It may also be the case that as the instances of interactive social presence increase, all learners can benefit, as they may feel more connected to one another, which in turn encourages participation (de Bruyn, 2004) and fosters the development of a successful online dynamic (Zhao, Sullivan and Mellenius, 2013).

Our findings lead us to draw four principal conclusions which have key implications for online teachers and course and task designers alike. Firstly, we have been able to identify how learners whose marks improve behave and express themselves in asynchronous discussion forum tasks over the course. These learners post and read others' posts more often, and they also use social presence indicators more than other learners, especially in the early stages of the course. Bearing these points in mind, teachers can make practical and evidence-based suggestions to those learners who post and read less often, or use lower amounts of social presence indicators. Secondly, we have identified a possible connection between learners who received the fewest posts from others and those learners dropping out. We would encourage teachers to monitor who receives posts from other learners and who does not. We would suggest that teachers should consider taking action (by replying themselves, for example) if other learners do not do so, as this may help those learners to feel part of the group and encourage them to continue with the course. Teachers need to tread a fine line in terms of how much and when they participate themselves though. As Rovai (2007) points out, teachers have to avoid both dominating interaction in discussion forums and stepping in too

quickly; however, if they notice no-one has replied to a particular student, contributions from the teacher in reply to them might be a way of encouraging that learner to feel more included. Thirdly, the most successful learners consistently use higher amounts of social presence. We suggest it may be worth teaching learners about how to project themselves effectively in online contexts and the likely impact this can have on their language learning. A language course would seem to be an optimum context in which learners can focus on linguistic strategies such as these. We would argue that learners' awareness of the connection between this and their success with learning may be a positive addition to the course because they would be acquiring communicative skills that will help them in other areas of their lives. Fourthly, the most successful learners use increasing amounts of interactive social presence indicators along the course and this is an area that teachers can help all of their learners with, by modelling interactive social presence in their own posts in the forum and pointing out good examples from learners too. Task designers may also want to consider adapting tasks in ways which mean learners need to overtly refer to other's messages, ask questions, show appreciation, and express agreement or disagreement to one another. Tasks which sensitise learners to the effect that this kind of language can have on readers in online contexts would be particularly useful and given that more and more people need to communicate online, this type of task could be helpful in any subject, regardless of whether it is taught in a face-to-face or online context.

5. How does learners' observed emotional engagement vary when learners write an essay and when they take part in the ensuing asynchronous discussion about their own essay and their classmates' essays?

We have found evidence that the type of writing learners do in different parts of the tasks has an impact on the amount of indicators of social presence that they employ. Participants in our study expressed far higher levels of social presence in the warm-up task and in replies to one another than in their essay contributions. This is in line with Kol and Schcolnik (2008), who note that in online discussion tasks, learners need to employ a combination of academic register and conversational interactions. In our case, while overall levels of social presence decreased between the first and final assessed tasks, possibly related to the different nature of the tasks as explained above, we found the decrease was magnified when we only analysed the essays, whereas social presence increased slightly in replies from one task to the next. This seems to indicate that the sense of community among the participants was strong until the end of the course.

When we analysed social presence levels in main posts and replies according to marks progression group, we also found some noteworthy differences. Learners in the three groups who completed the course (the marks-down, marks-same and marks-up groups) decreased their levels of social

presence in their essays between the first and final assessed tasks. On the other hand, the learners in the marks-down and marks-same groups increased their levels of social presence in their replies to others, but those learners whose marks went up between these two tasks decreased their level of social presence in their replies. It is difficult to explain this apparent change in how much social presence the learners who showed improvement in terms of marks expressed, but the fact that they employed the highest levels of social presence indicators of any group in their replies in the first assessed task may indicate that it is more important to use social presence indicators earlier on in the course, while the community is being built, than later.

The most significant conclusion we draw from our findings here is that task design affects how much social presence participants are able to express. Tasks which include a personal aspect provide learners with the opportunity to employ higher levels of social presence and may lead to 'warmer' learning environments, which in turn can foster a stronger sense of community. The implication in this respect is principally for task designers, but also teachers if they are involved with the design of tasks; tasks need to encourage or even require learners to take part in discussions, engage with the ideas of others (Dysthe, 2001) if they are to avoid letting forums become what Zhu (2006, p. 474) refers to as "an electronic collection of individual reflection papers and the instructor's feedback". As Bygate, Norris and van den Branden (2015, p. 2) suggest, tasks need to engage the learner and provide "a communicative space for establishing a shared interpersonal focus (i.e., between the learner/communicator and one or more interlocutors or audiences)." Therefore, given the importance that responses to others have, and also bearing in mind that essay tasks and responses to others give rise to different registers, we propose that separate evaluation criteria should be created for responses to others so that learners are encouraged to write in a less formal way regularly in their replies to others and these contributions are assessed appropriately.

8.1.3 Case study 3: Observing engagement in three learners.

The third objective of the present research was to look more closely at the three dimensions of engagement in three learners selected from the group of learners analysed in case study 2. In the previous two case studies, we analysed data in terms of group mean scores and raw numbers but this approach has its limitations. Citing Sidman (1960), Larsen-Freeman (2006, p. 598) points out, "group data may often describe a process, or a functional relation, that has no validity for any individual". As Karppinen (2005) suggests, meaningful language learning is constructive and individual in the sense that it takes place in a social environment, but that each individual learner brings different elements to the process and therefore, individual learners develop in their own ways. We therefore chose a student from each of the three groups of learners who completed the course and compared their individual behavioural and emotional engagement. We also sought to

analyse the three learners' cognitive engagement in a more detailed way, using a methodology appropriate for language learners. We identified CAF analysis of the learners' forum posts as a way to track how the three learners' language developed across the three tasks which were the focus of case study 2. We now address the two research questions asked for this final objective: (6) Do individual learners with different profiles in terms of marks progressions over the course demonstrate different levels of behavioural and emotional engagement?; and (7) To what extent do individual learners with different profiles in terms of marks progressions over the course show language development in their online forum contributions?

6. Do individual learners with different profiles in terms of marks progressions over the course demonstrate different levels of behavioural and emotional engagement?

In case study 3, we found different patterns of behavioural and emotional engagement among the three learners. Alicia, who started the course with the highest mark of the three but then decreased her mark in the final assessed task, participated the least in terms of the number of posts she wrote in the first part of the course. She read her classmates' posts regularly during the warm-up but in both assessed tasks, she read the majority of posts at the end of the scheduled task period. Alicia expressed lower levels of social presence than the class average. However, her scores for the use of indicators of social presence were brought down because she chose not to reply to others. As we noted in the reply to question 5 above, we found higher levels of social presence in learners' replies than in their main essay contributions. This fits with the findings of Rodríguez-Juárez and Oxbrow (2010), which suggest that for forum tasks to be effective for higher level students, they need to be made aware of how the extra practice can benefit their language development, thereby fostering higher levels of participation and interaction. On the other hand, Carolina, whose marks remained the same over the course, participated according to the task instructions; however, she only read a very small proportion of her classmates' posts for the final assessed task. Carolina expressed overall social presence slightly below the class average for the warm-up and first assessed task but then used a slightly higher amount of indicators of social presence than the class average in the final assessed task, particularly in her replies to classmates, when she was interacting actively with them. Iris, who began the course with a similar level to Carolina, and then improved her marks over the course, posted well above the class average in the warm-up and first assessed task, particularly in terms of the number of posts, but also in terms of the amount of language she produced. She read a higher proportion of posts in the forums for all three tasks than the class average, and while she did leave some reading in the first assessed task to the end of the task, in the final assessed task, she read consistently over several days. Of the three learners, Iris was the most consistent in her

observable behaviour in the three tasks. In terms of emotional engagement, Iris's posts showed higher levels of social presence than the class average in both the warm-up and first assessed task before using lower number of social presence indicators in the final assessed task, when she also posted her lowest number of posts. However, of the three learners, Iris used the widest variety of types of social presence in the three tasks.

Overall, our findings lead us to conclude that the behavioural and emotional engagement of the individual language learners we chose for this case study corresponded to the marks progressions groups they were assigned to and we have been able to confirm at an individual level what we saw in case study 2: that the most successful learners in terms of marks progression post more, read more regularly and express higher levels of social presence in their writing, particularly when they do these in tasks which take place early on in the course. For this reason, the recommendations we proposed in our answer to question 4 are validated in our results from case study 3. Our findings confirm those of Rodríguez-Juárez and Oxbrow (2010), in that the learner who began the course with the highest level participated the least, and in our study, she showed the lowest levels of behavioural and emotional engagement of the three learners, particularly in early parts of the course. If teachers are aware of the signs of less engaged learners in the early stages of the course, they can intervene and take appropriate action, and ensure these learners also get the most out of their learning experience. Teachers need to be cautious when drawing conclusions about the level of engagement of their learners, and not rely only on how often they post. When these measurements are taken together with learners' reading behaviour and levels of social presence they employ in their writing, though, teachers may be able to intervene at the most appropriate moment.

7. To what extent do individual learners with different profiles in terms of marks progressions over the course show language development in their online forum contributions?

We have found evidence that the three individual learners' marks progressions are related to their language developed over the course, although the relationship is not straightforward. As Larsen-Freeman (2006) cautions, language learning is complex and nonlinear and the different aspects of language interact in supportive and competitive ways. While learners may show higher scores in one aspect, they may seem to go backwards in another. Alicia scored the highest mark of the three for her first assessed writing but she was marked down for her final written task. In terms of complexity, both grammatical and lexical, Alicia's showed improvement, as did her level of fluency. However, these improvements corresponded with an increase in errors. In this sense, our findings are not in line with Kol and Schcolnik (2008) because the teacher in our study seems to have prioritised

accuracy over fluency when marking Alicia's final task, which these writers suggest is more typical in academic contexts other than language courses.

Carolina, whose marks remained the same between the two assessed tasks had variable grammatical and vocabulary complexity scores from one task to the next, and there were significant differences in her scores for main contributions compared with her replies to classmates. The increase in errors in responses to others often may be due to the fact that this learner focused her attention to accuracy on her main essay contributions and adopted a more conversational, spontaneous type of communication in her replies to classmates. This is in line with Kol and Schcolnik (2008) because the authors suggest that learners use a combination of academic register and conversational interactions. Finally, Iris, whose marks improved between the two assessed tasks, showed high variability in terms of grammatical and lexical complexity in her writing at the start of the course but her contributions showed a steady improvement in grammatical complexity, while continuing to reflect issues in the area of lexical complexity at the end of the course. Despite posting several replies to classmates, which scored minimally in terms of accuracy, her main contributions showed improvement, as did her level of fluency. Our findings seem to indicate that language development in these three learners corresponded reasonably well to the marks progressions groups they were assigned to.

The implications the results of our third case study have are mainly in relation to the methodological approach used in this research. Firstly, if learners with different profiles in terms of marks progressions do show evidence of their language development in their online forum contributions, our marks progressions analysis seems to have been a useful way to group learners and analyse their behavioural and emotional engagement, as we did in case study 1 and 2. Although we needed to group learners according to their marks progressions retroactively, we have been able to observe differences in behavioural and emotional engagement between the groups of learners. Our findings may therefore help teachers become aware of the signs of lower levels of engagement. Secondly, the analyses carried out in case study 3 of the three learners' posts for complexity, accuracy and fluency have shown evidence of the individual language learning journeys they took over the course. As we have seen in case study 3, the learner whose marks increased between the two assessed tasks posted and read more of her classmates' posts, showed higher levels of social presence, and she also demonstrated specific language learning development in her posts for the three tasks.

8.2 Contributions to the Field of Education

The broad aim of this study was to explore learner engagement in language learning writing tasks carried out in asynchronous discussion forums. We set out to observe learner engagement in a

systematic and objective way and therefore our first challenge was to identify appropriate methods. While previous studies had successfully documented behavioural engagement in online contexts, the study of emotional engagement was mainly limited to the analysis of self-reporting student questionnaires. Social presence has been the focus of a significant body of studies in the field of distance learning and this study demonstrates its considerable potential for future research into learners' emotional engagement in online contexts, whether the subject is language learning or any other discipline. Cognitive engagement has posed similar challenges for online language learning contexts. Our use of learners marks progressions to group learners helped us identify patterns in our data but the analysis of three learners' posts for grammatical and vocabulary complexity, accuracy and fluency that we carried out in case study 3 seems to have successfully provided us with evidence of the development of the three learners' writing competence as they carried out three tasks.

Understanding the effect of the specific nature of tasks that we ask language learners to do cannot be underestimated and as we have seen, it is a crucial variable for understanding learner engagement. The tasks we set learners need to be carefully planned and designed in such a way that fosters participation and interaction. It is through learners' interactions that they push their language use beyond previous limits and therefore develop their linguistic competences. However, when a personal dimension is incorporated into tasks, we are more likely to trigger full engagement and this can only be beneficial for their language development.

Another area we feel we have contributed to learner engagement research is in understanding how less engaged learners behave. If we wish to engage (or re-engage) as many learners as possible, we must be aware of the signs of disengagement. In this respect, there are clear links to engagement and student retention which offer a great potential for future research.

8.3 Implications for Teachers and Learners

The aim of all research in the area of education is to deepen our understanding of the learning process and contribute to its continued improvement, primarily for the benefit of learners. In this sense, our findings have a number of implications for educators and learners. In section 8.2.1, we will present and discuss a set of ten practical recommendations for educators, and in section 8.2.2, a corresponding set for learners. We hope that our suggestions can offer teachers practical ideas for working with learners in online contexts, whether they are fully online, or blended.

8.2.1 Recommendations for teachers.

There are ten key recommendations for teachers working with language learners in online discussion forums which are evident from the present research.

In terms of students' **language learning**:

1. evaluate all aspects of language development in learners' writing, not only accuracy.

Teachers should reflect on whether they are focusing principally on accuracy and not taking into account other aspects of learners' language development. As Larsen-Freeman (2006) points out, and also as we have confirmed in our study, language development is not a linear process and if we want learners to stretch themselves and begin to use more complex language structures, this may have an impact on expense of accuracy. Teachers should encourage learners to attempt more complex language and be careful not to over-penalise them if errors become more frequent.

2. identify higher-level learners and explain to them the benefits of active participation in tasks.

Higher-level learners may struggle to engage actively with tasks which they deem to be too simple so teachers may need to make the benefits of taking an active part in tasks more explicit to these learners.

3. evaluate responses to classmates as well as main contributions.

Make it explicit to learners that they need to take the same care when writing less formal posts to the forum in response to classmates as they do when drafting and preparing their main essay contributions.

In terms of students' **participation and interaction**:

4. monitor learners' activity, especially at the start of the course.

Learners who take part actively in tasks early on in the course tend to do better overall. It is therefore crucial to monitor who is taking part and how much, particularly early on. Active participation in a non-assessed course warm-up should be modelled by the teacher, although teachers should not jump in too soon and too often, to avoid becoming the centre of every discussion.

5. follow learners' post reading activity, especially at the start of the course.

The most successful learners read regularly and consistently the posts from other learners. Teachers should follow learners' post reading activity as this may not always correspond to their visible posting activity. In this way, teachers may find less visibly active learners are still taking part in the course and take appropriate action, but also, for those learners who are visibly active but not reading others' posts, teachers will be able to make recommendations to those learners about the benefit to their own language learning of reading other forum posts as often as possible.

6. step in if individual learners do not receive posts from others.

Receiving replies from others undoubtedly helps learners feel part of the group. Teachers should therefore monitor whether any learners receive no responses from classmates and in those cases, they could do so themselves. Alternatively, the task instructions could be adapted to encourage learners to do this.

In terms of students' **emotional involvement**:

7. include indicators of social presence all online written communication with students.

Teachers should learn about social presence, which involves using language which helps writers come across as real people in online settings, and strive to use it in their own online writing with students. Some examples of the type of language teachers might use are: referring to students' names, remembering to open and close all posts and emails with appropriate social greetings, making explicit reference to the content of students' posts (for example, asking questions, expressing agreement or disagreement, complimenting them), using humour, sharing personal values, and using emoticons, among others.

8. teach learners how to project themselves as real people in their online writing.

Teaching learners about the effect their writing can have on readers, particularly in asynchronous online contexts can be done in various ways. For example, tasks might include different styles of writing the same content and then ask learners to reflect on how they interpret each style. Alternatively, feedback to students on their writing could include asking learners to rewrite their contributions in 'warmer' ways if necessary.

9. include tasks which involve sharing personal experience and opinions.

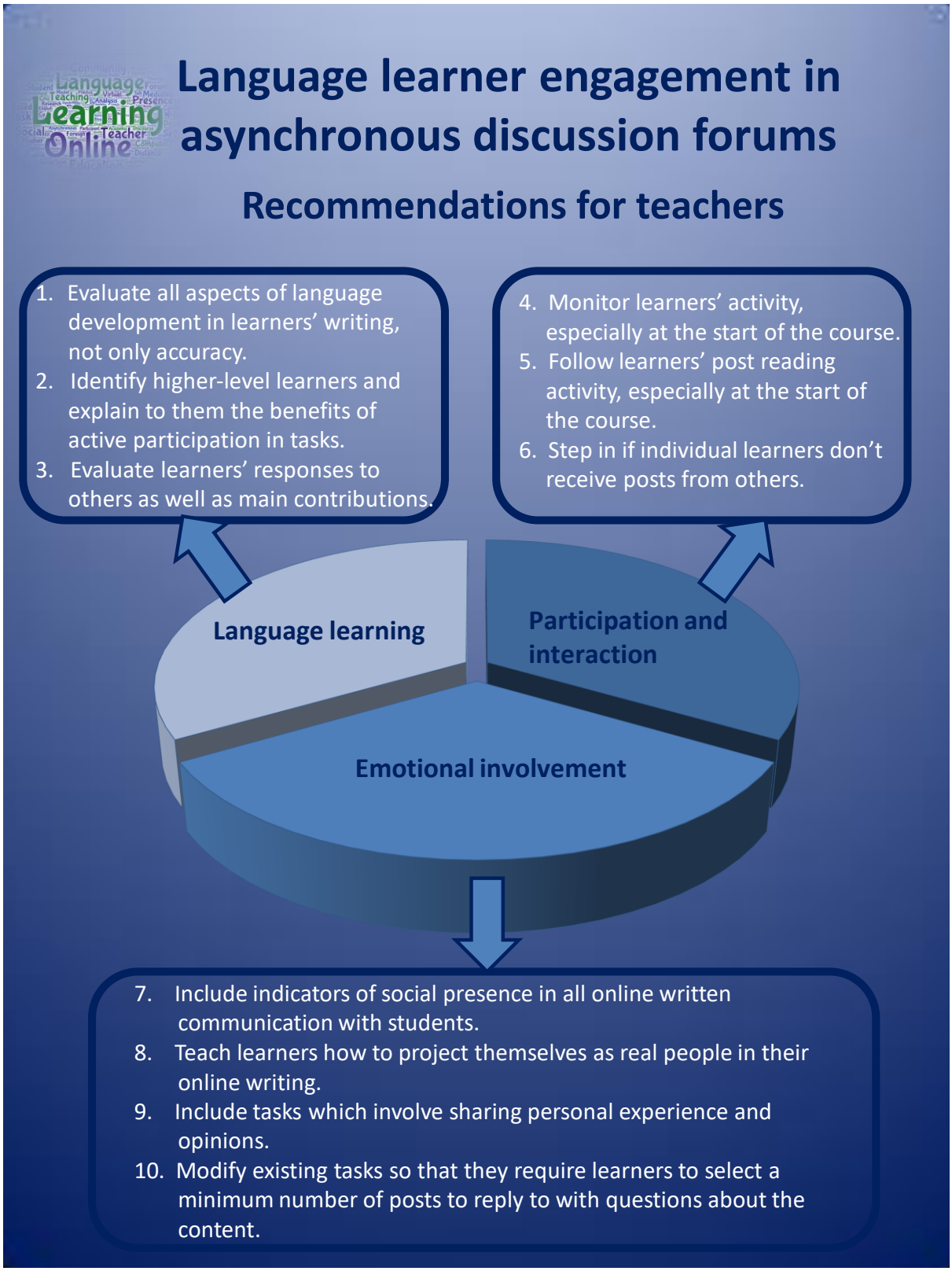
When writers share their personal experience and express their own opinions about a topic, they tend to use language which is 'warmer'. This helps build and maintain a stronger sense of community in online contexts and this can benefit all learners as they will feel more comfortable expressing themselves in a foreign language.

10. modify existing tasks so that they require learners to select a minimum number of posts to reply to with questions about the content.

If tasks do not already require learners to reply to each other, task instructions can be modified to incorporate this. In addition to encouraging learners to read others' posts more, replying to others fosters a stronger sense of community which has positive effects on participation, interaction, and ultimately on learning.

These recommendations are presented in a visual way in Figure 107.

Figure 107. Recommendations for teachers



8.2.2 Recommendations for learners.

From our findings, we have identified ten recommendations to share with learners with the aim of maximising their overall engagement in asynchronous discussion forum tasks and these are discussed in turn below.

In terms of **language learning**, the most effective language learners:

1. focus on all aspects of language development in their writing, not only accuracy.

Learners who introduce more complex grammatical structures and vocabulary into their writing are more likely to show greater improvement in the long term. This may lead to an increase in the number of errors, but errors do not mean language development is not taking place.

2. check the language used in responses to classmates, not only in main contributions.

Many learners focus their attention to detail on the main part of a learning task but if the task asks you to respond to other participants' writing, you should check your writing carefully for those responses as carefully as you do for the main task.

In terms of **participation and interaction**, the most effective language learners:

3. take an active part in forum tasks by posting regularly.

Learners who post often tend to improve more and faster, and doing this helps develop a strong sense of community for everyone, too. Posting every day while the task is scheduled to take place is optimum, but you should aim to take part an active part in discussion tasks by posting at least every other day.

4. read classmates' posts as often as possible, especially during the tasks.

Learners who read often are boosting their contact with the language. Reading classmates' posts every day while the tasks are scheduled to take place is optimum, but you should aim to read posts at least every other day.

5. reply to any classmates who have no responses yet.

All learners form part of the learning community and by replying to classmates who have no responses yet, you will be contributing to the development of a stronger sense of community for everyone. By doing this, you will also get to know more of your classmates.

6. become more involved in forum tasks by replying to more than the minimum required for the task.

The more you reply to others, the more you will participate and interact with them. This will maximise your use of language in the task which will have a positive impact on your language learning.

In terms of **emotional involvement**, the most effective language learners:

7. reflect on the effect their writing in online contexts has on others.

You should reflect on the effect your posts have on your readers and the effect that their posts have on you. This will encourage you to bear in mind that the other forum participants (including the teacher) are real people. In turn, this is likely to contribute to a 'warmer' learning environment in which all participants feel comfortable about sharing their opinions and experiences.

8. ask classmates questions about what they write.

If you ask others questions about what they write, you are more likely to think more deeply about the contents of others' posts. It will also lead to you making explicit reference to what others write. This will also encourage other participants to reply and continue the debate about the topic of the task, which will benefit your language development.

9. refer to the content of other participants' posts.

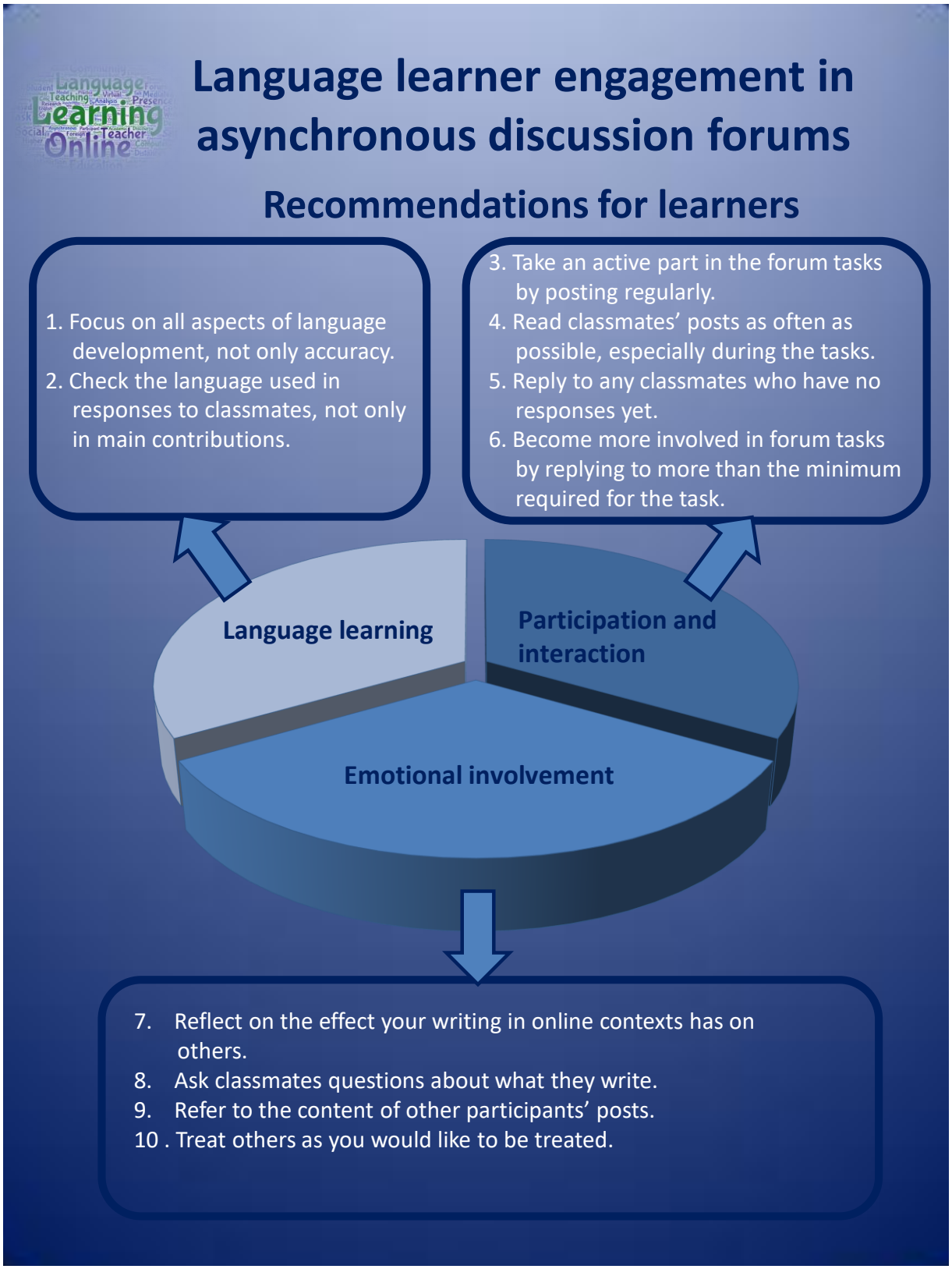
By referring to the content of other participants' posts, you will show that you are reading in an active way which will help build a strong sense of community for everyone. It will also help you build on other people's ideas, deepen your own understanding of the topics being discussed and foster your language development.

10. treat others as they would like to be treated.

In online contexts, remember to treat other participants with the same degree of care and respect that you would like to receive from others. Refer to other participants by name, refer to what they have written with respect, and show you are part of the group. In this way, everyone will be contributing to building a stronger sense of community and this will help you and your classmates improve your learning experience.

These recommendations for learners are presented in a visual way in Figure 108.

Figure 108. Recommendations for learners



8.4 Limitations of the Study

While we are satisfied with the findings in the present study and the implications these have for those involved in online education, and also with the recommendations we have produced for teachers and learners, there are several limitations which at this point, we must address.

Firstly, given that part of our aim was to observe emotional engagement, and to this we end carried out content analysis on our forum posts, our study examines a relatively small number of learners because this type of analysis is quite labour-intensive. Despite this, we have been able to draw tentative conclusions, but we should be cautious and avoid over-generalising; our results correspond to the context of the course we have investigated, but we are aware that not all online courses are run in the same way.

Secondly, we are satisfied that the findings in our study seem to show social presence to be an appropriate instrument to analyse learners' emotional engagement, but we would need to carry out more studies using this method, both in language learning classrooms and in online learning contexts for other subjects in order to validate the method further.

Thirdly, as we explained in chapter 4, the course from which our data is taken includes other tasks which learners carry out. These include collaborative writing, individual and pair work speaking tasks. What our learners did with those tasks almost undoubtedly affected their process of language development, but we had no way to reflect this, without drastically widening the scope of this study. Our principal aims were focused on learners' writing but we must acknowledge that our data stems only from a part of the tasks learners carried out on the course.

Fourthly, classifying learners according to how their marks progressed over the course is a simplistic approach to measuring cognitive engagement and in this study, we relied on our confidence in the teacher's experience and also on his active and successful participation in the regular marking standardisation activities which teachers at the UOC carry out. We controlled the margin of error by analysing classrooms which had the same teacher. However, we would need to carry out more studies using this method, both in language learning classrooms and in online learning contexts for other subjects in order to validate this approach for analysing cognitive engagement. Despite this, we do feel that the results in case study 3 seem to support the analyses in case study 1 and case study 2 which were based on learners' marks progressions. We would also need to bear in mind that learners who are awarded high marks at the start of the course cannot get higher marks, but they can still show improvement in terms of language development and so this is another limitation to the present study.

Finally, our aim was to *observe* the three dimensions of learner engagement. As we have shown, this involved using various methods to analyse our data. We fully appreciate that asking learners' for their opinions about their learning experience can offer a wealth of useful and insightful data on the topic, but given the scope of this study, we decided not to do this. Our results and analyses are only based on what we could observe and this is a strength (it is based on observable facts), but it is also a limitation because we do not hear students' voices and cannot confirm or reject some of the hypotheses that explain the cause of the observed behaviours.

8.5 Future Research

The present research opens up several areas for future research. The links between social presence and student retention have already been established (An, Shin and Lim, 2009; Kim, Kwon and Cho, 2011; Kim, Song and Luo, 2016; Rovai, 2007) but there does seem to be a great potential for more research in the area of student retention from the perspective of the observation of learner engagement, particularly in the early stages of the course. This area would be of interest for any online academic discipline, not only language learning contexts. We have seen in our study that these learners were working on the course in less visible ways (by reading others' posts, for example), and we believe this information needs to be made more readily available to teachers so that they can take appropriate action when and if necessary. Secondly, as we have already commented in the previous section in this chapter, we feel this study opens up a potentially useful avenue for exploring emotional engagement, through the analysis of learners' social presence. However, we feel that it would be useful to ask learners for their opinions about their learning experience and then compare that data with their observable behaviour. Finally, engagement has already been linked to another new area of educational research, that of gamification, which refers to the inclusion of game elements and digital game design techniques. As Pujolà and Appel (2020, p. 105) suggest:

> Gamification is also a feasible strategy for teachers, that does not require the kind of investment game development does, with a handful of resources and a spark of creativity it can bring positive results that will infuse teaching and learning with renewed energy and engagement. Gamification in language learning is a pedagogical trend to stay, and thus, more research is needed on the effects of gamification in TELL as regards to engagement, linguistic performance and learning gains.

We hope that the methodological approaches we have adopted in our study may offer new ways to explore learners' writing in computer-mediated communication to researchers who are interested in online learning and teaching.

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Appendix

Marking criteria for written work

Universitat Oberta de Catalunya

July 2018

Idioma Modern Teachers' Guide

Marking Criteria for Written Work

Bear in mind when marking students' work that irrespective of how good the language is, the marks may be lowered, and even merit a *fail*, if the students ignore the task instructions. If students do no work for a CA, they should be given N.

	Task achievement	Comprehensibility and register	Cohesion, coherence and organization	Vocabulary range and control	Grammatical range and accuracy
9 10 A	Good completion of task with no significant omissions and few irrelevancies.	Fully comprehensible (on first reading). Use of register and style generally consistent and appropriate.	Competent organisation of text, with a clear opening and adequate conclusion. A variety of linking words and devices used appropriately to mark relationships between ideas. Adequate layout, paragraphing and punctuation.	Very good range of vocabulary for the task. Some use of synonyms and idiomatic expressions, though usage may be slightly inappropriate. Minimal or no L1 influence. Few spelling errors.	Wide range of structures. Only very minor flaws in sentence structure. Little sign of having to restrict what s/he wants to say. Minimal or no L1 influence.
7 8 B	Task covered adequately with minor omissions, though some points may be handled more effectively than others.	Nearly always comprehensible (with only minor lapses). Some but not full command of register and style.	Text organisation adequately controlled. Limited number of cohesive devices to link text into reasonably coherent and fluent discourse. Text follows standard layout and paragraphing conventions. Punctuation reasonably accurate.	Good range of vocabulary for the task. Varies formulation to avoid frequent repetition, but gaps can cause imprecision and circumlocution. Some L1 influence. Spelling reasonably accurate.	Good range of structures for the topic. Sentence structure is varied, although there may be occasional problems of syntactical control with complex sentences. These, however, do not generally affect intelligibility. Some L1 influence.
5 6 C+	Neglect of task rubric results in only partial completion of task and inclusion of irrelevant information (or task is handled in simplistic fashion).	Generally comprehensible (but some parts may require a second reading). Little attention to register/style required for the task.	Organisation partially controlled. Connection sometimes absent or unsuccessful. Consequently, lapses in coherence and fluency apparent. Some attention paid to layout, paragraphing and punctuation.	Sufficient range of vocabulary for the task. Repetition is apparent. Noticeable L1 influence apparent. Spelling is accurate enough to be followed.	Sufficient range of structures for the task. Sentence structure is generally simple, with relatively little variety. Or student may attempt to use complex sentences, but syntactical errors make these somewhat difficult to understand. Noticeable L1 influence.
3 4 C-	Fails to achieve significant parts of task in terms of content and organisation, with major omissions and/or irrelevancies.	Sometimes incomprehensible. No attention to register/style.	Organisation poorly controlled. Uses only simple connectors. Sometimes incoherent. Poor control of paragraphing, punctuation and layout.	Insufficient range of vocabulary for the task. Often inappropriate or considerable L1 influence.	Insufficient range of structures for the task. Errors of form and use with basic structures. Lack of syntactical control renders many sentences unintelligible. Considerable L1 influence.
0 1 2 D	Inadequate attempt at task.	Often incomprehensible.	Very little evidence of organisation. Only very basic use of linear connecting devices. Layout and punctuation neglected.	Serious lack of control and extremely limited range of vocabulary. Frequent basic errors.	Frequent basic errors. Serious lack of control and extremely limited range of structures.