



Learner and Teacher Perceptions on Digital Technologies in Tertiary L2

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The paper explores digital literacy practices in a tertiary English for Specific Purposes context where digital technologies are employed to promote collaborative learning. Drawing on Vygotsky's Zones of Proximal Development (ZPD), the study provides a novel theoretical perspective within a social constructivist framework. In-depth empirical data on learner and teacher perceptions are presented of the use of digital technologies. The case study took place in the 2012-2013 academic year at the University of Cyprus and employed a qualitative research design, using group and individual interviews, questionnaires and a reflective journal with ESP learners (n=16) and university teachers (n=8). Inductive thematic analysis was used. Perceived benefits and challenges that digital technologies bring to the L2 classroom are visited, relating to the development of digital literacies, collaborative learning and curriculum development. Specific themes include catering for specific ESP needs through ZPD and scaffolding, group dynamics, and assessment. The research contributes to the field as it explores the affordances of digital technologies for collaborative learning and digital literacies; it compares learner and teacher perceptions of the collaborative use of such technologies in the ESP classroom; and it relates these to a social constructivist framework. Implications for policymakers, curriculum developers and teachers are drawn, and suggestions are provided for further research.

1. Introduction

A collaborative pedagogy, along with its social constructivist roots, is compatible with, and can serve the tertiary ESP curriculum well. To maximize the benefits of such a marriage, teachers' and students' perceptions and practices on its application need be examined, leading to a redefining of the roles teachers and students can play in the ESP context. The purpose, by considering the views of both, is to build more effective and efficient curricula, and also improve teaching and learning experiences.

As a social constructivist pedagogy, collaborative learning (CL) shifts the focus of the learning process from teacher- to student-centered and from passive to active, emphasizing self-regulation. This brings multiple benefits to the tertiary ESP classroom. Those benefits can be supplemented and enhanced by instructional technologies. Because of their potentially collaborative nature, such technologies can promote interaction among users, cater to idiosyncratic learning styles and facilitate CL. In the ESP classroom, CL and collaborative technologies (CTs) can blend and further facilitate the learning objectives.

This study aimed at exploring the following gaps: (a) a shortage of comparative research exploring student and teacher perceptions and practices of collaborative pedagogies in ESP, (b) an absence of research looking at the interplay between CL and CTs, and (c) a lack of related research in Cyprus. Other aims include, *inter alia*, informing policymaking and pedagogies, improving classroom experiences and better catering for the learning needs of contemporary ESP students.

1.1 Linking CL, CTs and social constructivism

CL and CTs entail social connectivity, reflectivity, collaboration and interactivity. Both CL and CTs, the latter as a mediatory tool, hand students the responsibility for their own learning, turning them into knowledge generators [1]. Via their numerous pedagogical advantages, both can provide opportunities for efficient scaffolding and active learning, promote accountability and interdependency, engage students in meaningful interaction and advance knowledge building, hence aligning with social constructivist theories of learning [2]. The ideas of interacting and collaborating with peers and teaching one another within a social context, thus affording students the opportunity to co-construct knowledge via meaning negotiation, heavily echo Vygotsky's ZPD [3] and align with the social constructivist tenet that the social context provides the framework where knowledge is constructed by individuals via interaction between them [4],[5]. I wouldn't go so far as to suggest that CL and social constructivism are one and the same but I would argue that social constructivism *is* the basis for collaborative pedagogies that entail instructional technology [6],[7].



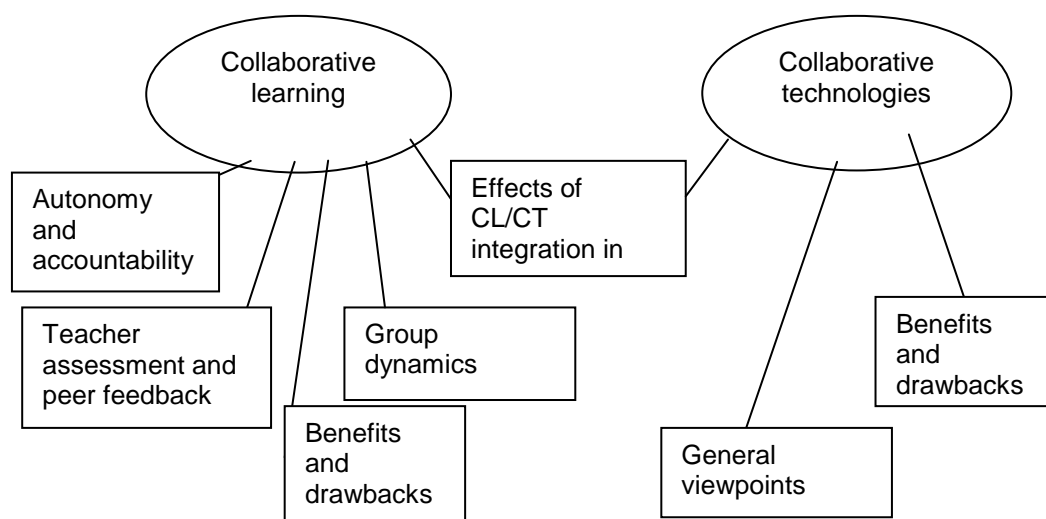
Research on constructivism suggests that Web technologies can invariably aid teaching. A classroom environment characterized by authenticity, active knowledge construction, ownership of materials and attention to students’ interests – all key principles of a constructivist philosophy, mediated by CTs – engages students in experiential learning and can lead to better skills and knowledge acquisition [8]. Simultaneously, interaction between peers and a consideration of their often different viewpoints are components absent from individual learning [9]. The collaborative, social nature of learning is vital not only for students’ education but also for their lifelong professional learning, given that learning at the workplace is mainly socially constructed and maintained [10]. In Vygotskian and Deweyan thinking, learning is not an action happening in isolation but is rather a lifelong, collaborative process [11]. Finally, constructivist-oriented language learning curricula with a technology component can raise students’ awareness on a linguistic as well as on a communicative level [12]. Hence CL, CTs and constructivism can be a promising pedagogical blend for tertiary ESP.

2. The study

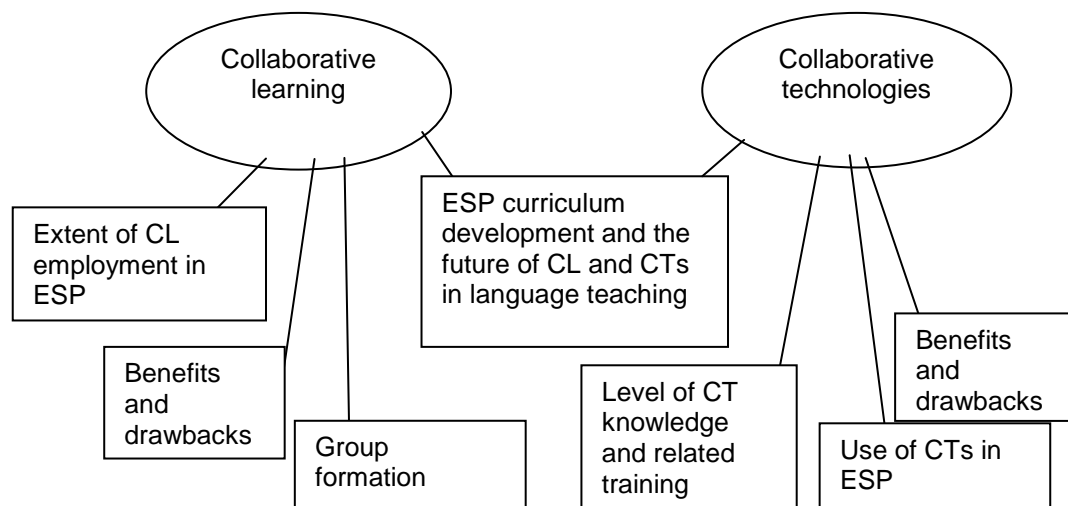
Sixteen third-year students taking a compulsory, advanced ESP course (B2.1-B2.2 level on the CEFR) [13] and eight fellow teachers participated in this qualitative case study. The following research questions were examined: (1) What are the perceptions and practices of University students regarding the integration of CL in their ESP course(s) and the use of CTs to support CL? (2) What are the perceptions and practices of University language teachers regarding the integration of CL and of CTs in ESP teaching and curriculum? (3) How do the perceptions/practices of the two compare?

Individual and group interviews were employed with the student sample along with student reflective journal entries; individual interviews were employed with the teacher sample as follow-ups to a qualitative questionnaire. Inductive thematic analysis was performed. Coding and thematization were, to various degrees, a combination of data-driven, theory-driven, and latent-constructionist processes. Largely, data analysis was inductive, hence consistent with case study research and with the wider hermeneutic tradition [14]. In accord with a constructivist framework, themes were identified at a latent level: an effort was made to move beyond describing the surface level of data, and towards interpreting and theorizing the underlying assumptions, contexts and conditions that shaped the participants’ perceptions and practices in the way they did [15].

The thematic analysis was carried out separately but similarly for each sample. Data were analyzed using a six-phase process: familiarization, first generation of codes, theme recognition, theme reviewing, theme definition and specification, and finally, report write-up [15]. These steps overlap often, rendering thematic analysis more systematic. Two thematic maps resulted (Figures 1, 2). Based on these themes and subthemes as well as on the prevalence and insistence of data, a number of patterns were drawn, leading to numerous conclusions and implications.



(Figure 1: Final thematic map for student sample)



(Figure 2: Final thematic map for teacher sample)

3. Discussion

Findings are encouraging for collaborative-oriented ESP curricula with technology components, as perceived advantages from both samples significantly outweighed perceived disadvantages. A number of perceived advantages recurred in both samples: (a) students can learn from each other and improve, linking CL to ZPD, (b) the motivational prowess of CL and CTs, (c) the capacity of a collaborative-oriented ESP as a real-world simulator, linking authentic tasks to the workplace, (d) CL's potential for more effective, enjoyable, interesting, faster, more organized learning, improved linguistic and social skills, and increased creativity and productivity, (e) CL's promotion of autonomy, independence and accountability as self-regulated learning parameters, aligning with some of tertiary education's key goals, (f) the expansion of the traditional classroom's spatiotemporal boundaries, and (g) various benefits like more active involvement, more time for teachers to cater to specific student needs and more resources available.

A number of challenges were also addressed: (a) problematic group dynamics, (b) increased workloads which, along with curriculum pressures to cover content, means additional preparation, leading to excessive time demands, (c) assessment concerns, (d) a challenging pedagogical implementation that carries the need to keep pace with its developments, (e) the distracting potential of CL, (f) challenges to more traditional teacher and student roles, and (g) a debilitating lack of experience in working collaboratively and in using CTs.

It has been found that teachers possess an average to extensive knowledge of CTs and that they tend to employ CL to varying degrees, through technological and other means, mostly favoring this integration in their syllabi. It has been acknowledged that markets favoring teamwork at the workplace have "forced" a shift in education, giving prominence to collaborative-oriented pedagogies, irrespective of how teachers feel. Teachers expect collaborative pedagogies to dominate curricula in language teaching in the coming years and stated that they would integrate CL in a prospective ESP course, although they would not necessarily consider it disadvantageous if they did not. Students stated that a collaborative pedagogy has somewhat changed their approach to studying, but not greatly, and expressed reserved liking toward CTs, raising concerns over its transient nature. Teachers also stated that student views should be considered when developing ESP curricula.

A number of implications ensued: (1) The idea of a ZPD fostered by a collaborative pedagogy was apparent throughout the dataset. Findings suggest that ESP contexts integrating collaborative pedagogies and utilizing scaffolding give rise to individual accountability and positive interdependency, therefore setting ZPDs into motion. Both samples appear to perceive such a development as greatly beneficial and welcome. A combination of CL and CTs in ESP can hence be regarded as one that meets the learning targets of this quite specific, idiosyncratic and dynamic learning context, and one that can cater for the ensuing needs.

(2) Assessment was the area with the greatest dataset incidence, appearing troublesome for both samples. Students exhibited predominantly negative stances against shared grades as giving rise to unfairness and to instances of being taken advantage of, while teachers opined that fairness and choice of assessment form were problematic. Teachers' role in assessing CL was also problematized,



with both samples acknowledging the difficulties inherent in knowing who does what in a collaborative classroom.

(3) Group dynamics are crucial in CL. Size and formation type can affect the effectiveness of collaboration and the resulting learning experience. Students almost unanimously advocated groups of between two-four, while teachers reported that size is dictated by tasks. Both samples were heavily supportive of free formation, although some pronounced that the authenticity ESP contexts strive for, calls for pre-formed groups. Finally, intra-group dynamics, power struggles, unwillingness or inability to work in groups, assigning roles between students and loafing were all mentioned as hazards that can harm interpersonal relations in the classroom and hinder CL's potential benefits. Regarding simulation of real-world conditions, the emerging needs of markets for employees competent in collaborating render ESPs particularly significant courses, but also burden them with increased responsibilities. The potential of the collaborative-oriented ESP classroom to mirror the real world (through pre-formed groups, peer feedback, task authenticity, collaboration, use of technologies) has repercussions for ESP curricula. These need to be designed so as to hand students full advantage of what ESPs can offer to them, both in terms of linguistic competency as well as in terms of skills-oriented preparation for their future. To that end, teachers employing CL need to find the right balance within groups so that these operate smoothly.

(4) I do not wish to discount other similarly effective pedagogies. Findings here though suggest that a collaborative pedagogy can cater to ESP's curricular objectives and as such, it can be regarded as a sound alternative to other pedagogies. Nonetheless, it can be a challenging one for students and teachers accustomed to other pedagogies, especially those immersed in instructivist epistemologies [16],[17]. To successfully implement CL and provide proper support to students, teachers need to understand (a) the general framework of constructivism (upon which CL is based), (b) how constructivist curricula are to be developed, and in the case they wish to integrate CTs as scaffolds, (c) they also need to keep up with any accompanying technological innovations. A full understanding of what constructivism is and of guidance mechanisms to lead students toward it, hence proper adaptations of classrooms to gain maximum benefits from its pedagogical applications, are needed so that the danger of applying constructivism naïvely is avoided [18].

If CL is to be implemented in ESP, syllabi must cater for it and be adjusted in terms of time and resources. Moreover, careful planning is required when implementing new pedagogies because of the idiosyncratic nature of teaching and learning styles [19]. One implication is that both students and teachers need to adapt to new, integrated models of teaching. However, both the professional development needed and the time-consuming implementation of a demanding pedagogy such as CL have adverse effects on workloads and may force the hand of institutions to steer clear of CL. Having said that, ideally, curricula should evolve according to the market's needs, and resultant pedagogical shifts should happen irrespective of whether institutions dislike or resist them.

A number of future research paths are proposed: (1) Conducting studies to analyze the language needs of students by paying visits to workplace environments could further optimize CL's integration in ESP curricula. On-site needs analyses would provide valuable insights into how the pedagogical implementation of CL could better prepare students for the professional arena.

(2) Comparative research is needed to study student achievements with and without CL, providing vital information for institutions. Moreover, CL's impact on content learning *per se* could be measured, so that the pedagogical effectiveness of CL is evaluated more roundly, providing policymakers and curriculum designers with more in-depth knowledge into how best to take advantage of collaborative pedagogies.

(3) More systematic investigation of how expert-novice scaffolding interaction works in tertiary and further education would be beneficial for the collaborative-oriented ESP context, given its links to ZPD and scaffolding. Specific areas could be targeted, such as vocabulary and spoken language, to see whether scaffolding is equally effective in each or whether students benefit more in some tasks and less in others. Findings would further improve how curricula employ CL.

4. Conclusion

This study has shed light on the crucial role collaboration and the social context play in language learning. The increasing popularity of constructivist-oriented pedagogies in the field is testament to that. The social constructivist framework this study has operated in, presented specific conceptualizations of notions such as CL, scaffolding, ZPD, co-construction of meaning, interaction, active learning, language's mediational role, student-centred approaches and new roles for teachers and students; the ESP context needs to heed such conceptualizations, as they have been found here to meet and facilitate its specialized demands. The capacity of these notions to cater to the ESP

setting is enhanced by considering both student and teacher perceptions, which is not often the case in the literature and is therefore one of the innovations of this research.

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