ПЕДАГОГІЧНІ НАУКИ

STRATEGIES FOR EFFECTIVE COMPUTER-SUPPORTED COLLABORATIVE LEARNING

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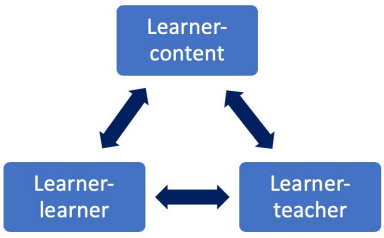
In social constructionist pedagogical approaches, learning is defined as an interactive, discursive and situated activity [5]. This rests on the idea that knowledge is co-constructed through social interaction. Students are seen as active learners and teachers as facilitators. In both off- and online settings, collaborative learning refers to two or more learners working together and striving to solve a common task or achieve a shared learning objective using predominantly peer-directed interactions [2]. In instructed learning settings, there is a differentiation between three types of interactions, as illustrated below.



Picture 1. Three types of interactions within collaborative learning

These same three interactions are just as valid in the context of computer-supported learning [7, p. 132]. Up until recently, research in online learning had

focused on the first two interactions, learner-content and learner-teacher/instructor/tutor. Computer-supported collaborative learning (**CSCL**), by contrast, also attempts to tap into the potential of the third, namely learner-learner or peer interaction.

In traditional classroom settings, collaborative learning is known to have a significant positive effect on individual learning achievement [4]. However, creating opportunities for meaningful learner-learner interactions, is no doubt considerably harder in online than in face-to-face learning settings. Indeed, creating online learning communities where peer interactions and collaboration can strive represents a genuine challenge.

Since they are equally applicable to traditional face-to-face learning settings, many of the tools and strategies that studies have shown to significantly improve computer-supported collaborative learning will already be very familiar to experienced teaching practitioners. Thus, it is necessary to focus on how three familiar strategies such as *peer feedback, instructor facilitation* and *role assignment* can be successfully adapted to online learning environments.

Whilst feedback undoubtably has the potential to improve students' writing skills, critical thinking and argumentative skills regardless of whether it is in an off- or online setting, web-based approaches can make use of new and existing technologies to streamline the process. Existing technologies include social media platforms, content management systems, and file synchronisation services.

Some EFL CSCL projects rely on *Facebook.* Writing assignments are posted on a dedicated *Facebook* page and the students are required to post their own writing and comment on each other's work on the platform. The instructor acts as a facilitator, encouraging and monitoring the students' discussions and interactions. It is believed that the platform is very popular with the students because it plays a crucial role in successfully motivating the students to meaningfully interact in these computer-supported collaborative learning activities [8].

There are another EFL writing courses which demonstrate that online peer assessment can also be successfully implemented involving existing blogging technology. The authors of such a course compare in-class writing activities with face-to-face oral peer feedback with a group taught in a computer laboratory that wrote their writing assignments as blog posts. While both groups improved their revised drafts, the blogging group significantly outperformed the offline group. Key features of blogging technology, i.e. drafting, commenting, editing, and publishing, appear to facilitate peer-to-peer interaction and collaboration [1].

Computer-supported collaborative learning has the potential to improve learners' cognitive, affective and social learning outcomes. However, studies have also shown that, in practice, meaningful learner-learner interactions in computer-supported collaborative learning settings do not necessarily materialise simply because the technology theoretically enables it [3]. Crucially, both off- and online, ineffective group interactions are known not to have any pedagogical added-value [6].

To mitigate this risk, additional instructor- or system-led support strategies to promote CSCL can be helpful.

For instance, a computer-supported environment (the Process-Writing Wizard) for collaborative technical writing which provided "process-oriented scaffolds" and "a synchronous online chat room" was evaluated [9, p. 397]. These process-oriented scaffolds and a synchronous online chat room seemingly greatly improved the quality of peer interactions. In addition to being able to work synchronously on collaborative tasks, students also developed collaborative writing strategies, such as brainstorming and managing team work. The study concluded that the writing products elaborated with the system were better structured and of higher quality than those completed without.

Even minimal instructor guidance as to how to structure feedback can considerably improve the quality of peer feedback. Cognitive feedback messages (i.e. those that include concrete corrections or suggestions) are found to contribute to a greater improvement in students' learning gains than affective feedback (i.e. praise)

and metacognitive feedback (e.g. comment encouraging deeper thought). Consequently, instructors ought to encourage more such direct comments.

A further strategy that can be implemented to support effective CSCL is role assignment. It has been suggested that assigning specific roles to each member of a learning group can facilitate CSCL activities. It can help tackle some of the problems often associated with student group work. Thus, it can contribute to more constructive criticism, to ensuring that all students make equal contributions to discussion, that no one is left out, and to temper both overly competitive and passive behaviours. Assigning roles in CSCL concept mapping activities is not only feasible, but also significantly improves socio-emotional experiences in online small group learning.

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