Students Engagement in Hybrid Taught Large Introduction Courses During COVID-19

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Abstract

Since the COVID-19 outbreak, universities worldwide have been forced to adopt hybrid teaching approaches and enforce new teaching methods that help to sustain student engagement up. To build student engagement and belonging early in the education is especially important. In this paper we use a case study from a Swedish university consisting of two large introduction courses to explore how student engagement and learning can be facilitated with hybrid teaching techniques. The case illustrates how communication strategies, active learning, variation, societal collaborations and a conscious focus on students' current knowledge and understandings can create a positive learning environment, characterized by a high level of student engagement and a sense of togetherness, also under these new circumstances.

Keywords: *Student Engagement, Active learning, First Year Experience, Hybrid Education*

1. Introduction

Student engagement is one of the key characteristics in higher education, and it is widely researched and theorised because of its profound impact on learning outcomes. It generally refers to "time, energy and resources spent on activities designed to enhance learning at university" [1]. It is a complex and multifaceted phenomenon that requires various teaching techniques, curriculum planning, teachers who develop and deliver the courses, and the students themselves who need to actively take part in learning process. There are many different approaches to teaching/learning, ranging from the traditional face-to-face teaching (classroom) to completely online teaching. Web-enhanced hybrid approach combines the traditional classroom sessions with technologies to facilitate learning activities, contents delivery, etc. This approach became increasingly used during the lockdowns enforced because of COVID-19 pandemic when most universities adopted hybrid style of teaching. The possibilities to use some of the well-tested engaging methods disappeared with remaining need of keeping student engagement up. How to keep student engagement up with hybrid teaching techniques? This paper sheds light to two success stories where student engagement was kept as high as during the campus teaching times.

2. Literature review

Hybrid teaching combines the best of two worlds and has the potential to provide better student engagement (Fig.1).
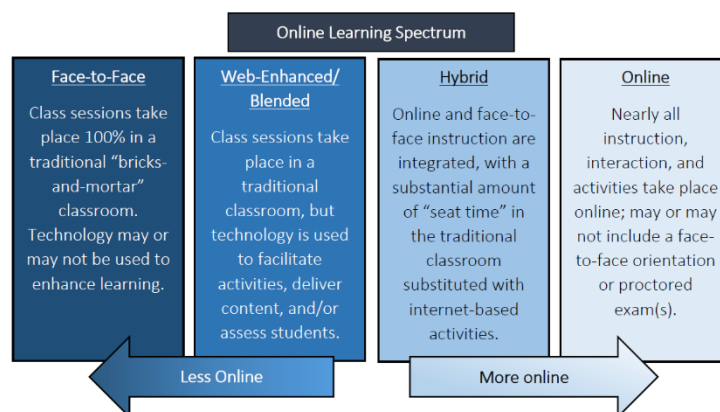

Fig.1. Teaching Approaches [2]

On the one hand, *face-to-face* teaching facilitates immediate, real-time engagement, where activities such as classroom discussions, group presentations, instant interaction between instructors and students and/or among students themselves, enable better engagement and facilitates active learning. On the other hand, *online* part allows the students to watch videos and read course materials several times, to complete the assignments at their suitable time and place, to enable good discussion and interaction via online forum and messaging. The existing research illustrates that learning outcomes and academic achievement are stronger with *hybrid* approach than for either *face-to-face* or *online* teaching alone [2].

Student engagement is closely connected to student retention and academic performance, and it can play decisive role in retention of first-year students. Studies have shown that along with taking the classes, first-year students struggle with number of challenges including time management, distribution of the workload, and learning various academic skills [3]. The COVID-19 restriction added another layer of challenge to the existing ones. Although reasons to leave higher education institution can vary, the recent studies have shown that a sense of belonging [4], active learning, engagement in the own study [3], [5], good communication between student(s) and teacher(s) [6], and social engagement [7] can play a decisive role in students´ decision to return to the university for their sophomore year.

Active learning is anything the students do, apart from passively listening to an instructor's lecture. With active learning and variation, students become more engaged in their learning process, and it results in deeper learning via high-order learning activities [8]. Furthermore, interaction between instructors and students is important to facilitate engagement in a hybrid course. The core focus of learner interactions is on instructor immediacy to provide a sense of connectedness with the learners. By being a constant presence, instructors help the students feel more like a part of a learning community [9]. Lastly, a strong learning environment where students can interact with each other is essential to a successful student engagement. It was found that student-to-student connectedness can positively influence students' learning from a variety of perspectives [10]. Research also showed that study groups are effective in helping students learn more and learn better when they work together in collaborative teams.

3. Case study

Kristianstad University is a small university in southern Sweden, which highlights the importance of keeping a close relationship between teaching staff and students. The case study highlights two introduction courses on two bachelor programmes.

3.1 Software Development Programme

Introduction to Computer Science, 7,5 ECTS, was led by two teachers and given for two programmes, English and Swedish, where there was a close relation between all four actors (see Fig.2).
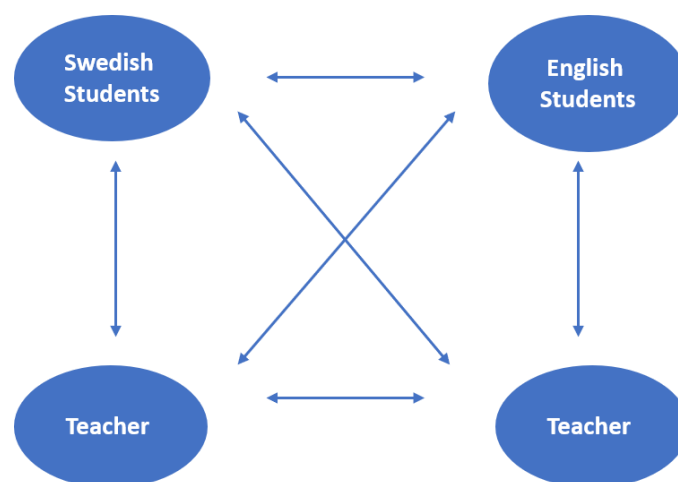

Fig.2. Communication between the students and teachers

The course gives fairly broad knowledge in computer science as well as prepares the students for academic and scientific journey. During the course, the students work both individually and in a group. When the course started, students filled in the personal profiles in a presentation forum. With this method, students could find study buddies and form learning groups. Laboratory work was designed and implemented as group activity, to facilitate learning by doing and promote peer learning and interaction, which led to connectedness and togetherness. Zoom on-line lectures were recorded, while exercises and help sessions were implemented in both large groups and small break out rooms to provide practical and collaborative learning. The online quizzes served as the formative assessment during and after the lectures. The most common errors or misunderstanding found via quiz statistics were discussed to improve the understanding. To facilitate the interactions, course announcements and Discord platform were used to provide positive acknowledgements, constructive comments and instant responses to questions, as well as instructors presence 15 min before and after each lecture for informal discussions.

3.2 The Business Administration Programme

Every year around 195 students are admitted to the bachelor programme in business administration and the first course they encounter is Marketing and Organizing, 15 ECTS. Student centered learning is used as a pedagogical starting point, where the focus is on facilitating the students' learning processes.

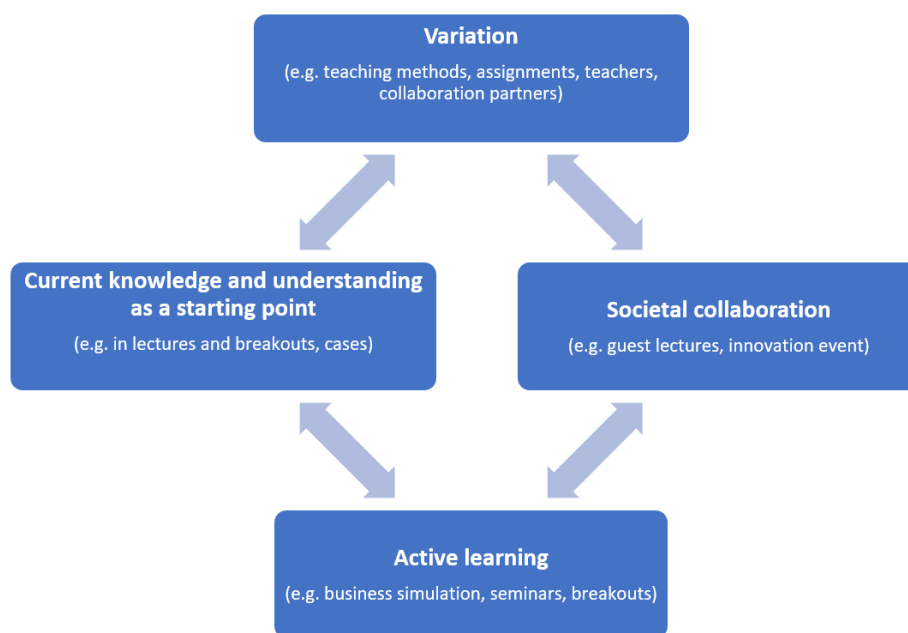The course design and activities are built on four corner stones, illustrated in Fig.3.

Fig.3. Corner stones in the course design for facilitating student engagement and learning

The course offers a great variation, both in terms of teaching methods and assignments but also in terms of teachers and collaboration partners. The hybrid approach entailed one physical seminar every week, where the students met in smaller groups and several on-line activities every week. Real-time on-line lectures integrated with discussions and assignments were complemented by a business simulation, case studies, an innovation event, supervision and workshops with focus on generic academic skills. Based on Kolb and Kolb's [11] idea that all learning has to do with re-learning, the starting point for all activities was the students' current knowledge and understanding of the topic, which then was tested, challenged and developed. Active learning and the idea that students become more engaged in their learning processes and reaches a deeper learning and understanding if they are activated, resulted for example in that we used real-time on-line lectures, in contrast to recorded lectures, where the students could be activated by problem-solving in break-out rooms and that a business simulation engaging students, forcing them to work together and using their theoretical knowledge to make practical decisions, got a central role in the course. Finally, societal collaborations

were used to help the students to envision a possible future carrier, create a sense of belonging to their new programme and to make sense of the theories by illustrating their practical value. In total, seven guest lectures in different formats such as interviews, recorded study visit and live lectures, six cases and one innovation event with an external client was incorporated in the course.

4. Findings and Discussion

Due to the COVID-19 outbreak, a hybrid teaching approach was used in the autumn 2020 and new teaching methods and approaches were applied. Despite the challenge of limited face-to-face meetings, the overall impression of the courses, from the student's side, is positive. As an example, the student evaluation for the business administration course resulted in the exact same mean on the question "My overall impression of the course is positive" in 2020 as in 2019. Furthermore, the student evaluations for the same course shows that the students assess that they had actively participated in the activities offered to them. The choice to use active learning strategies and not pre-record lectures but rather make them interactive seems to be appreciated. The attendance for the in total over twenty 3-hours lectures was relatively high (140-170 students) and the student evaluation show that the lectures are appreciated (with a mean of 4.1 on a scale 1-5). For the communication part, the course evaluation of software development students shows 4.1 scores. It confirms that the communication between all partners (Fig.2) played an important role. Overall, the software development students were satisfied with the course, where the following quote gives a good summary: *"Under unprecedented circumstances with COVID-19, the course was delivered well. If I needed help, the teachers answered quickly."* When it comes to the retention rate and how many students that passed the courses, it is roughly the same as previous years (see Fig.4), indicating a positive outcome of the hybrid approach.
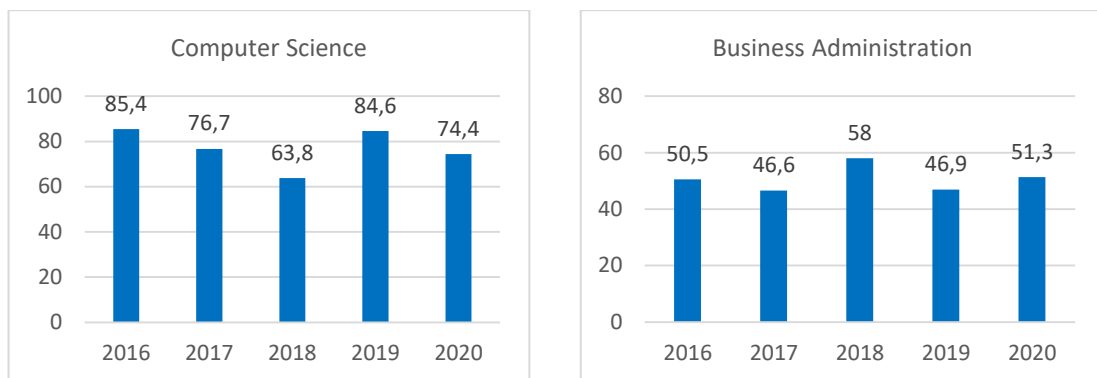

Fig.4. Results (in %) of the courses during last 5 years

One vital aspect of the favourable outcome was the level of communication in the programmes, for example the ability to communicate directly to the teachers or online during lectures in the chat. The variation and the active learning approach also made the students participate and be more active during the courses. The students really liked the combination of meeting physically once a week, being seen, feeling connected and get the opportunity to get to know each other (and the teachers) and having online activities that they could enjoy from the comfort of their home. The transition to hybrid worked very well and we are proud of the implementation. This also making us wonder if elements of the hybrid form should be used to enhance the first-year students' experience during more normal circumstances.

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