Learning Experiences and the Emotions That Shape Student Learning

An empathic, learner-centered course evaluation approach to understand student learning experiences with technologies in higher education

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Abstract

Teaching in higher education (whether traditional, digital-supported, blended, or online) focuses on student learning outcomes including development of skills or competencies related to the domain, or learning new methods, for example. In each course or module, students gain new knowledge and also make experiences in these formal learning settings. Such experiences are often accompanied with emotions or feelings – positive or negative. Those experiences shape student learning. However, current course evaluation methods lack an empathic approach toward evaluating student learning experiences. Course evaluation is often focused on the appeal or satisfaction domain, that is whether students liked the instruction or not. Hence, to better understand student learning experiences, a research approach is needed that integrates empathic and learner-centered principles to develop a new teaching and course evaluation approach. In addition, the role emotions play in such learning experiences will be studied, too. The described research project focuses on courses that are digital-supported, where learning with technologies takes place. In the future, this new course evaluation approach could be applied to understand how student learning experiences with technologies in higher education can be improved.

Keywords

Learner-centeredness, digital-supported learning approaches, learning experience evaluation

1. Introduction

Nowadays, teaching and learning in higher education is always somehow supported with digital technologies [1], e.g., co-located settings, blended learning, or online/distance learning. Usually, all teaching and learning strategies in such settings aim at supporting memorable learning experiences and evoking positive emotions [2]. Studies show that digital technologies can help create novel learning experiences that lead to more successful learning outcomes. For example, Abildinova and colleagues have observed an increase in student engagement and deeper thinking skills in an active learning setting with technologies [3]. But with the growing integration of technology in educational settings, new challenges arise. Mthembu and colleagues argue that a shift in pedagogy is necessary as they found that a majority of interviewed teachers are not fit to implementing pedagogical strategies necessary for technology integration in education [4]. What then often happens is that digital-supported learning approaches are not designed for *learning experiences*. They are designed for learning (i.e., knowledge gain, pedagogical performance) but not to elicit positive feelings of that experience for students. But designing for learning experiences that evoke positive emotions could be immensely valuable. Research shows that effective learning is strongly connected with positive emotions [5, 6]. The difference of *teaching for learning* and *teaching that includes the design for learning experiences* might be simple: learning experiences offer an emotional aspect in the learning situation.

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To understand whether students had a memorable learning experience when digital technologies are incorporated in teaching strategies, usability evaluation methods that are traditionally rooted in fields such as user experience design (UXD) have been frequently used in the past. However, those methods do not yet seem to holistically describe the student learning experience as their focus is solely on the technical aspects of learning experiences. Currently, approaches to study the learning experience lack empathy.

We understand empathy by considering and understanding learners' perspectives on their experiences and learning processes to inform learning design and evaluation. This understanding is closely related to participatory design [7]. Here, representatives of the actual target group are participating in formats such as workshops or discussions together with designers. The goal is to actively incorporate stakeholders' views in design decisions. In education, participatory design strategies such as co-design are frequently applied for designing courses, interventions, or applications, e.g., [8]. However, they are not yet considered in evaluation approaches in higher education – or at least, the 'relation' between (co-)design and evaluation is not explicitly clear, and therefore needs further investigation. Thus, this research seeks to be influenced by participatory and co-design practices and investigates how they can be applied in the design but also the evaluation stage of learning experiences. In our case, we are seeking to explore how students' views on past and current learning experiences can be used to develop a new evaluation approach. For this, learners will be considered by not only focusing on their pedagogical dimensions or human-computer interactions but also by investigating and understanding their feelings and emotions that arise during learning with technologies.

2. Related Work

All types of emotions humans are frequently feeling can have an influence on how well students learn. Pekrun notes that especially attention, motivation, use of learning strategies, and self-regulation of learning can be affected by positive emotions. But not all positive emotions in turn have positive effects on learning. For example, if a positive emotion is not related to learning, it can shift the attention away from a topic and decrease academic performance. Conversely, negative emotions do not only hinder successful learning but also have a negative effect on students' wellbeing and personality development [6]. In his work, Pekrun therefore suggests that instructors should make an effort to elicit positive emotional experiences for students that are "linked to the task of solving cognitive problems and studying learning materials" [6, p. 13] , all while offering them guidance on how to navigate arising negative emotions as those cannot be fully prevented [6].

When talking about learning experiences in formal settings, Schatz draws a parallel to experience marketing, where holistic experiences to engage consumers are created by covering the following five aspects: Sense, Feel, Think, Act, Relate [9]. A holistic experience can be created when it stimulates the *senses* via sight, sound, touch, taste, and smell; when it elicits *feelings* of strong emotions; when it makes people *think* through surprise, intrigue, and provocation; when it challenges people to *act* and change their behavior; and when people *relate* to others in the broader social system [10]. Jahnke and colleagues define learning experiences as "a class of experience that not only leaves an impression on someone, but also puts the person in a practical contact with something" [11, p. 51]. Jahnke further describes digital learning experiences as such learning experiences that arise when learning with digital technologies [2].

With the growing deployment of learning technologies in schools and higher education institutions, usability evaluation for educational technologies has become important. In 2006, Nokelainen criticized the focus of only assessing the technological usability of learning technologies in existing research [12]. Jahnke and colleagues have built on Nokelainen's work and found that also the social dimension of learning is not thoroughly considered when evaluating online or digital-supported learning environments with existing criteria such as Nielsen's widely cited usability heuristics [13]. Traditional usability methods or user experience research can be used to study the technological usability of learning technologies. This has also been done frequently. But the quality of learning technologies is not only

determined by the technical usability. Other aspects such as the social and pedagogical aspects of learning with technologies have only recently gained attention. This is where the approach of Learning Experience Design (LXD) comes in. LXD aims at creating learning designs all while focusing on the learner and considering them in every step of the design process [14]. Schmidt and Huang define "[...] learning experience design as a human-centric, theoretically-grounded, and socio-culturally sensitive approach to learning design, intended to propel learners towards identified learning goals, and informed by UXD methods" [15, p. 151]. One goal of LXD is to evaluate the quality of the learning experience when interacting with technology [16].

3. Proposed Methodology

Similar to participatory approaches, the LXD approach is frequently applied to design courses, applications, or interventions, often applying such participatory design strategies e.g., [7]. While Schmidt and colleagues also discuss potential evaluation methods within LXD [17], there are only a few attempts to study the learning experience in an empathic and learner-centered manner, e.g., [18]. When looking at evaluation methods for learning technologies, it can be observed that there is a strong emphasis on technological perspectives such as the ease of use or usability of an application or system [12]. On top of that, there are a variety of evaluation methods for learning technologies but not for learning experiences that evoke positive emotions in digital-supported courses. In our case, digital-supported courses are such courses in which students and instructors interact with each other and with the learning material both face-to-face or through technology (e.g., within a learning management system). The question how to holistically understand and then evaluate student learning experiences by also uncovering and understanding students' emotions not only for learning technologies but when learning *with* technology remains unanswered.

An initial literature review has shown that definitions and *facets* of learning experiences are primarily formulated on a theoretical and conceptual level. Therefore, collecting empirical data from the field should make the learners' views visible. This step of empathizing with the target group is inspired by the Design Thinking approach [19]. In individual, in-depth interviews, students will be asked what – according to their perspectives – makes a learning experience a memorable one. They will also be asked to describe past situations that have fulfilled those criteria. The data will help to understand what role emotions exactly play in shaping the learning experience. In addition to students, interviews will also be conducted with university instructors who have also been students themselves in the past. Findings will then be summarized and reconciled with a conceptual paper that will be written in parallel to develop facets of the learning experience, similar to the method of Jahnke and colleagues' approach of developing six facets of supporting creativity in higher education [20]. Those facets of learning experiences will act as the foundation for a quantitative survey to validate the facets. Finally, this questionnaire, which has been informed by learner voices, will then be further developed in such a way that it can be used in course evaluations at higher education institutions.

The outcome of this study, a new course evaluation approach, aims to offer a first, low-level way of understanding the student learning experience in a course. It will offer in-depth insights about how and why the learning experience has been rated by the students and which roles emotions have played during the process. Here, further methods from neighboring fields such as human computer interaction (HCI) and computer-supported collaborative learning (CSCL) could be applied.

4. Outlook

With this empathic strategy toward developing a new course evaluation approach that extends the focus beyond the pedagogical outcomes of students or technological usability of learning technologies, we hope to uncover what aspects of a learning design need to be reconsidered to improve student learning experiences in teaching practice at universities and across educational institutions. Real-world application could then take place by instructors or quality management teams applying our approach

at higher education institutions to understand, analyze, and inform the learning experience in a course and then iteratively re-design the course so that the best possible learning experiences can be offered to students. Eventually, the findings of this research can find their way into course design and course evaluation processes in higher education institutions and can help creating actual memorable learning experiences for students.

In future research, the developed facets could then be applied for studying the learning experience in more traditional lectures or for understanding the learning experience of informal settings, for example, in self-paced learning or microcredentials.

5. Declaration on Generative AI

The authors have not employed any Generative AI tools.

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