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Beyond classroom learning: Personalized learning through digital technologies

120 - Neue Lehr- und Lernkulturen in der technologiegestützten Lehre

Abstract

This paper describes the implementation of blended learning in the interdisciplinary first-semester course "English for Health Management" in the Health Department at the University of Applied Sciences Burgenland. In particular, the paper discusses the challenges involved in the transition to a Moodle-based course and the way the technology alters the roles of teachers and students alike. Moreover, three sample activities are described to highlight aspects of student-centered personalized learning and related pedagogical approaches, such as the flipped classroom. Finally, the paper presents results of a student survey conducted at the end of the first semester, as well as the author's reflections on the course and some of the lessons learned.

Keywords:

personalized learning, blended learning, digital technologies, Moodle, autonomous learning, collaborative learning, flipped classroom, scaffolding

1. Introduction

In fall 2014, blended or "personalized" learning (p.learning) was implemented for the first time in selected courses in the Bachelor programs of the Health Department at the University of Applied Sciences Burgenland, including the interdisciplinary course "English for Health Professionals I" within the Bachelor programs of Physiotherapy, Nursing, and Health Management & Health Promotion. In an effort to optimize language learning, a number of activities were developed using the Moodle platform and other technologies that required students to collaborate both inside and outside the classroom, thereby benefitting from each other's knowledge and abilities. A survey conducted at the end of the course captured the students' perceptions of these activities, as well as general data on the digital literacy of students, their study habits and attitudes towards personalized learning and new technologies in general. The survey, which was sent to 91 first-semester students, resulted in a relatively high response rate of 87% (n=79).

2. Theoretical background

Rapid advances in technology and the associated social, political and economic changes of the 21st century are presenting contemporary educators with the challenge of preparing young people for an uncertain future with technology and jobs that do not yet exist. This challenge has led to the emergence of a new trend in the arena of educational theory – the concept of personalized learning. While there is no unified definition of the relatively young concept of personalized learning in the research community, there seems to be a consensus that personalized learning should be learner-centered, as opposed to teacher or curriculum-centered. In other words, a personalized learning environment should enable learners to take ownership of their learning, while the teacher assumes the dual role of facilitator and advisor. Thus, personalized learning rejects a one-size-fits-all approach that adheres to a rigid pre-defined curriculum with strict time and space limitations, and instead enables a radical re-thinking of time and space. This form of learning, which can take place both inside and outside the classroom, offers the potential for flexible learning that is tailored to a student's individual needs.

The personalized learning model has many positive implications. First, frontal lecture input is largely replaced by a communicative approach, where learning takes place through conversations in which teacher and learner construct meaning and knowledge together. In this so-called "scaffolded learning" (Vygotsky 1978), language emerges from the learning process, whereby the teacher helps the student realize their potential. "Scaffolding" is the assistance a teacher offers to the student to master a task that the student would otherwise be unable to master. As Benson (1997:126) noted, "scaffolding is actually a bridge used to build upon what students already know to arrive at something they do not know. If scaffolding is properly administered, it will act as an enabler, not a disabler". To this end, pedagogical scaffolds "should be constantly changed, dismantled, extended, and adapted" (Walqui /van Lier 2010:24) according to the needs of the students. The second important feature of personalized learning is that student-centered learning activities offer learners a greater freedom to learn in their own ways. This allows less advanced learners to learn at their own speeds, while more advanced learners can push the boundaries of their own abilities. The learning freedom also compels learners to assume responsibility for their own learning process. In addition, by incorporating interactive Web 2.0 technologies, personalized learning opens up a range of new possibilities for collaborative learning. The inherent social aspect of both asynchronous online learning tools (e.g. blogs, discussion forums, glossaries, wikis) and synchronous tools (e.g. instant messaging, chat rooms, social media networking sites) affords numerous opportunities for a high level of communicative interaction outside the classroom. Finally, a personalized learning environment facilitates innovative pedagogical approaches, such as flipping the classroom (Berrett 2012, Bergmann et. al. 2012, Brame 2013), as described below.

2.1. Changed roles of learner and teacher

When designing learning activities for face2face, online and self-study phases, it is imperative to keep in mind the new roles of student and teacher in a personalized learning system. As mentioned above, learner-centered personalized learning is a two-sided approach. The teacher provides tailored tools that enable flexible learning in a structured environment, and the learner must then take charge of the learning process, thereby becoming self-directed and developing autonomous learning skills. Thus, the role of the teacher shifts from a transmitter of knowledge to a facilitator in the construction of knowledge, while the learner becomes more engaged in the learning process. This shift in roles entails an adaptive change that often requires both teachers and learners to abandon deeply held beliefs about how learning takes place or in the words of Zmuda et.al. "[…] it's hard, it's disruptive, and it creates uncertainty" (2005:149). For teachers, this new approach to learning has many implications. One should not underestimate the effort involved in designing personalized strategies and tools capable of providing students with more flexibility and greater responsibility for both the "what" and "how" of learning. In addition to the increased investment of time, teachers need to be willing to innovate, take risks, and try out new teaching approaches to see what works for which students, as well as being ready to deal with possible failure.

For learners, personalized learning also entails significant challenges. First, it cannot be assumed that all students are capable of dealing with the flexibility and autonomy afforded by personalized learning. In fact, before entering tertiary education, many students are exposed to an environment in which they are given little space for higher-order thinking for at least 12 years and may not be ready to take charge of their own learning. And even if they are, they may lack the motivation to put the mental effort into organizing their own learning and become frustrated or find it more difficult to learn when faced with too much flexibility and freedom. Given the choice, many choose the "easy way out" and thus fail to obtain the desired result. Second, learners do not always learn more or better when they are able to decide what and when they learn. As observed in my own courses, some learners do not have the cognitive capacity to regulate their learning and to put new information in context. They may be able to navigate social networking sites or use Google for simple research assignments, but they lack the critical skills needed to find reliable information or evaluate the validity of what they find. This does not call into question the legitimacy of personalized learning as an educational concept. However, if traditional classroom teaching is on one end of the continuum, and personalized learning on the other, it seems the optimum solution may be a balanced approach somewhere in the middle of this continuum, where learner and teacher both play an active role in the learning experience. In this view, learners and teachers are learning partners (Curtis et.al. 2015) that construct learning experiences in a dynamic rather than hierarchical fashion.

2.2. The role of technology

The recent hype surrounding personalized learning goes hand in hand with the digital revolution that has long influenced education. However, it is important to note that personalized learning does not

necessarily require the use of technology. While there is growing evidence that interactive technologies can facilitate and enhance language learning when used in a structured manner, technology is not a magic bullet that leads automatically to better language learning. Obviously, a poorly designed blended learning course is unlikely to enhance the learning experience. Moreover, the successful implementation of existing and emerging technology hinges on the ability and willingness of teachers to use and adapt to it. In fact, the implementation of a personalized learning approach requires careful planning and coordination of both in-class and online activities, with consistent attention paid to the central learning objectives of the particular course.

3. Course design and sample activities

The key learning objective of the present course was to enhance the students' language fluency in healthcare-related contexts by providing ample opportunities for self-expression and language application. In light of the diverse educational backgrounds and varying degrees of language competence found among first-semester students, p.learning's strong focus on student-centered learning made it a desirable approach for achieving this objective (Phillips 2015). The sample activities described below were devised to fit into the University of Applied Sciences Burgenland's concept of p.learning and to create an environment that caters to the students' diverse learning styles and fosters both collaborative and autonomous learning.

3.1. Glossary

Over the course of the semester, students collaborated on Google Docs (Google Drive) to create their own glossary, whereby they produced and edited the content collaboratively. Although none of the students had ever worked with Google Docs, this somewhat basic interactive activity was well received, with 98% rating it very helpful or helpful. Students were excited to discover a technology that was new and simple to use. In addition, the activity had a clear practical purpose (i.e. preparing for the exam), and the students felt that the collaboration made studying for the exam more efficient.

3.2. Advergames lesson

In this activity, students were introduced to new content prior to class, as is recommended for the student-centered flipped classroom (Berrett 2012, Bergmann/Sams 2012). To this end, I created a Moodle lesson on advergames (i.e. online corporate videogames that advertise products primarily to children), which consisted of a scientific reading, an audio podcast and a subsequent comprehension quiz with instant feedback. This lesson was to be completed before we addressed the topic in class. In the following class, the students discussed key comprehension questions in small groups and then presented their results to each other. Unlike traditional classroom models, where students are introduced to new information in the classroom and then reinforce it with homework (Keengwe et.al, 2014), with the flipped classroom model students have ample time to assimilate information at a pace suitable for their proficiency level and to prepare themselves in advance for the in-depth critical discussion and problem-solving activities that take place in the classroom. Thus, class time can be spent on higher level cognitive activities that deepen their understanding of a topic and increase their skills at using their new knowledge (Brame 2013). In the present case, students cited two factors that

made the activity successful: the option to assimilate the background information at their own pace (96.2%) and the instant feedback provided by the Moodle quiz (96.2%).

3.3. Nutrition podcast

In the “Nutrition is our Mission” podcast activity, students were instructed to create their own four to five-minute podcast in pairs or groups of three on a nutrition or lifestyle-related topic of their choice for an imaginary internet radio station. None of the students had ever created a podcast before, and the anxiety level beforehand was quite high. This assignment required several skills, including drafting and editing the podcast, as well as practicing pronunciation and rehearsing in order to sound as natural and fluent as possible, all in a second language. Despite their initial misgivings, the students produced quality podcasts, including the quieter students in class, who seemingly lacked the confidence to speak in front of a large group in a foreign language. Survey results confirmed that recording their podcast increased their speaking confidence and encouraged them to work on their own speech and pronunciation (67.1%). To increase motivation, all podcasts first entered a competition in their respective groups. Once the group winners had been determined, the faculty and students in the Health Department were invited to cast their votes to determine the winning team. The winning team received a prize from the University of Applied Sciences Burgenland PR department.

Although the students had some anxiety beforehand about creating their first ever podcast, the results were quite good. Nevertheless, only a disappointing 67% of the students found the podcast activity to be a valuable learning experience. Follow-up conversations with students revealed that many students felt overwhelmed because they perceived the task as too time-consuming in the midst of their end-of-semester stress.

In a subsequent course, approx. 1/3 of the students from the original group completed a second podcast assignment, which was to be completed on their own (i.e. not in groups). The anonymous survey conducted after the class (n=20) showed that a surprising 95% of the students found this second podcast a valuable learning experience. The majority of the students (90%) cited their increased level of comfort with the process of creating a podcast as the reason for this improved rating. In addition, responses to the open questions showed that students preferred this assignment to the one from the previous year because they could work independently.

4. Conclusion

Although in the end, all of the students (100%) expressed overall satisfaction with the blended learning activities, it is important to stress that this was a hard-earned satisfaction on the part of both the students and teacher. The experience of introducing this new learning method clearly showed that many students lack digital literacy and experience with blended learning and are unaccustomed to self-directed learning. In the present case, only 19.2% of the students had done a blended learning course before coming to the University of Applied Sciences. Thus, the students required continual guidance throughout the course, from in-class explanations of Moodle specifics to discussions about

time management and general discussions about different learning techniques. Many students had never contemplated how they think and learn because they had been on autopilot for too many years in the classroom. Of course, in the long run, addressing the topic of their own learning techniques in the classroom can be highly beneficial because it stimulates the development of meta-cognitive skills. These self-reflective skills are important because they start thinking about their own learning behavior, which ultimately makes them more efficient and effective learners because they realize that they have a stake in their learning (Phillips 2015). In addition, talking about the process of learning helps them develop an appreciation for the usefulness of the technical tools deployed. In the present case, by the end of the semester most of the students (84%) felt very confident using Moodle, and this comfort level gave them a new appreciation for its usefulness for learning purposes.

From the teacher perspective, in addition to the initial investment of time, one of the most challenging aspects of transitioning to a blended classroom is the creative challenge of creating, coordinating, piloting and evaluating online and in-class activities that produce the desired learning outcome. For teachers this means completely re-designing their courses. To address these challenges and be mindful of the demands placed on faculty, it is highly advisable for higher education institutions to provide proper training for staff members, to facilitate exchanges of ideas and experiences between faculty members, and to promote best-practices in blended course development.

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