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Developing Learning Environments for Blended and Online Learning

Abstract

Developing online and blended learning programs at a university requires the selection of an appropriate framework which addresses the criteria of effective pedagogy. This paper aims to determine a framework for developing and evaluating online and blended learning environments within university educational contexts. The paper is based on the experience of developing blended and online teacher training programs in Teaching English to Speakers of Other Languages at Bond University, Gold Coast, Australia. First, the paper outlines the methodology of the project. Then, it explores various concepts and theoretical models of learning environments. The next part of the paper examines students' perspective of the elements of the learning environment as defined by the framework of choice. The paper concludes with a comparative overview of the theoretical framework and its application within the Bond University context.

Keywords: language learning, online learning, blended learning, teacher training

Introduction

While developing online and blended programs in the Faculty of Society and Design at Bond University, it became essential to determine an appropriate framework to ensure that the developed learning environments addressed the criteria of effective pedagogy. This paper aims to determine a framework for developing and evaluating effective online and blended learning environments. First, the paper outlines the methodology of the project. Then, it explores various concepts and theoretical models of learning environments in order to select the framework which addresses the elements and features of blended and online

education best. The final part of the paper examines students' perspective of the learning environment elements as defined by the framework of choice.

Project Methodology: Research Background, Research Aims, Research Tools, and Research Sample

This section outlines research background, aims, research tools, and the sample. The study explores (1) language teacher education programs in Teaching English to Speakers of Other Languages (TESOL) and (2) Spanish programs including levels 1 to 4, at Bond University, Gold Coast, Australia. Bond University offers two postgraduate programs for language teacher education, Master of Arts in TESOL and the Graduate Certificate in TESOL. The programs aim to either prepare students for teaching English as an Additional Language or Dialect (EAL/D) or to extend the expertise of existing EAL/D teachers. The TESOL programs have been offered in the on-campus mode of delivery since 1989, and in the online mode since 2013. The Spanish program has been offered in its blended format for seven years which provided important longitudinal data on effective practices in the blended environment.

Both, TESOL and Spanish programs, have been undergoing continuous evaluation to strengthen the alignment between the content, pedagogy, learning design, instructional design, and emerging technologies that increasingly offer better teaching and learning solutions. Students enrolled in the programs represent very high level of diversity regarding age, cultural and linguistic backgrounds and fields or levels of previous teaching and learning experience.

Three aims have been formulated for the purposes of this paper. The first aim was to examine theoretical frameworks for developing learning environments for blended and online learning to determine the model which conceptualises online context best. The second aim was to analyse students' perspective regarding an effective learning environment in the context of online and blended education. The final aim was to compare the key elements of the theoretical framework with the students' perspectives to determine whether the Bond University TESOL and Spanish programs address the requirements of effective pedagogy.

TEVALs (Teaching Evaluations) are a non-compulsory teaching evaluation tool that allows students to provide feedback on each subject they enrol in. They consist of two parts, in the first part, the students respond to ten questions rating various aspects of teaching and the subject using the Likert scale. In the second part, students answer the following two open questions:

1. What aspects of this educator's approach helped you learn?
2. What aspects of this subject did you find most helpful?

This project focused on the analysis of the qualitative data provided in the TESOL and Spanish student responses. The sample was collected over six semesters between 2015–2016, then the responses were tabulated and analysed, according to the categories representing the elements of the learning environment selected in the research phase of the project.

The next section explores a range of learning environment frameworks for developing blended and online environments.

Learning Environments: Definitions and Frameworks

This section examines the frameworks of learning environments. First, it outlines the need for a flexible learning environment suitable for developing online and blended programs. Next, it explores definitions of learning environment and reviews a variety of learning environments defined in professional literature. The last part presents the selected learning environment model and explores its elements in detail.

Defining Features of Learning Environment in Blended and Online Contexts

One of the main challenges the authors of this project experienced while developing blended and online learning environments was the difficulty in communicating the features of online education employed for the purpose of the program delivery. This difficulty resulted from the high level of ambiguity in the terminology employed to describe online environments and their resources. In particular, it was difficult to describe the TESOL online program which is delivered fully online, using tools which allow for high level of interactivity and collaboration, not commonly associated with online environments. A wide range of asynchronous resources is delivered via Blackboard Management Learning System, and the Blackboard Collaborate (Classic and Ultra) video conferencing tool is used for synchronous weekly tutorials.

Due to the advancement of technologies, many terms used to describe and distinguish between the online and the 'brick and mortar' classrooms no longer describe this dichotomy accurately. For example, when discussing the characteristic features of online education, this mode of delivery is often referred to as lacking in interaction, collaboration, and personalisation. Therefore, it is

viewed as less effective than brick and mortar ‘face-to-face’ mode of delivery. However, the principal feature of the Blackboard Collaborate platform is the ability for students and teachers to work ‘face-to-face,’ in a virtual classroom. Consequently, both modes of delivery allow students to engage in live sessions which are interactive and personalised. Accordingly, ‘the brick and mortar’ term of reference was the only term which adequately described the difference between the two modes of delivery. To sum up, the way educational technologies are employed in the program blurs the existing terminology and it emphasises the need for redefining learning environments concepts and frameworks.

Review of Learning Environments

The next step in the project was to explore concepts and models of learning environments suitable for blended and online education. Many sources (Abualrub, Karseth, & Stensaker, 2013) referred to a learning environment within the political contexts. Other authors used the term ‘a learning environment’ when discussing issues with connection to technology, blended learning or difficulties with their implementation (Abualrub et al., 2013). Accordingly, many articles were written by information technology experts in the language easily accessible only to this particular expert group. Overall, very few references and sources defined learning environments. Koper (2000, p. 3) stated in 2000 that “the term ‘learning environment’ has been widely used but it has rarely been defined.” It appeared the situation, almost 20 years later, has changed very little (Abualrub et al., 2013).

The most comprehensive overview of learning environments was recently provided by Abualrub et al. (2013). They identified various ways with which a learning environment is referred to in professional literature. For example, Salmi (2009, in Abualrub et al., 2013) referred to it as “an educational environment,” while Hiemstra (1991 in Abualrub et al., 2013) described it as “educational climate.” Other researchers used the terms “academic environment” (Lizzio, Wilson, & Simons, 2002, in Abualrub et al., 2013), or “study environment” (Kirschner & Vilsteren, 1997, in Abualrub et al., 2013). Grabinger and Dunlap (1995, in Abualrub et al., 2013) proposed that educational researchers often use the term “learning environment” to encode “unlimited and more unspecified things in education, places and activities.” The definitions of learning environments vary in topic, range, and features. They may refer to physical spaces where learning activities take place, supportive technologies, online conditions or approaches. Abualrub et al. (2013) concluded that a learning environment was the sum of teaching and learning activities and approaches. They also observed that a concept of learning environment is often intended to fit a specific research agenda.

The Holodeck

While reviewing the models of learning environment, one framework in particular came into focus due to its flexibility and the positive lack of reference to the terms associated with online or non-online learning environments. Thornburg's (2013) concept of a learning environment as 'a Holodeck' presents an ideal framework for developing blended and online educational settings. A Holodeck is a concept known to Star Trek (an American science fiction television series) fans, and it refers to a virtual reality room (a plot device) on board of Star Trek USS Enterprise, in which the crew can participate in a variety of plots, in different environments of their choice. To sum up, the Holodeck provides a virtual environment which allows the Star Trek staff to do what they need or wish at any particular moment.

Thornburg's (2013) model of a learning environment as a Holodeck underlines the features of an effective pedagogical model, defining them at a level which goes beyond the terms difficult to avoid in many other frameworks. A learning Holodeck, according to Thornburg's (2013) metaphor, is, therefore, an environment where learners can have a full successful learning experience, and to do what they need during their learning experience. Its four elements reflect the principal features of good pedagogy models promoted in broad education. Thornburg's (2013) design of a learning environment as a pedagogical setting includes four learning spaces: (1) Campfires, (2) Watering Holes, (3) Caves, and (4) Life.

The first learning space, Campfires, is the home of didactic presentation of the material. The term Campfires refers to the ancient way of learning, where, sitting by the campfire, the young generations listened to the stories passed on by the elders. This epitomises teaching provided by the storytellers, who were the keepers of knowledge. Thornburg (2013) underlines the importance of such learning and compares it to one of the roles of a successful learning environment, with teachers as arbiters of knowledge, disseminating it at a metaphorical campfire, the home of the lectures.

Thornburg (2013), however, recognises that lectures are only one of the important elements of effective teaching and learning processes and he identifies the second learning space as Watering Holes. The Watering Holes are "a place of social learning among the peers" (Thornburg, 2013). The concept of social learning as a dominant activity in various communities has been debated and accepted through the work of Vygotsky in the 1920s, who developed a concept of the zone of proximal development initiated by social interaction (Vygotsky, 1978). Similarly to many current methodologies (Scarino & Liddicoat, 2009), Thornburg (2013) views the role of the metaphorical Watering Holes, or in educational conceptual spaces where learners meet in small groups of three or four and talk informally about the material they have learnt in lectures.

The third space, Caves, is the home of reflective learning. Again, this feature of education has been central to many older (i.e., humanistic approaches) and more contemporary concepts in teaching, such as Intercultural Language Teaching and Learning (Scarino & Liddicoat, 2009). Scarino and Liddicoat (2009) emphasise the role of reflection in learning language and culture: “Learning involves becoming aware of how we think, know and learn about language (first and additional), culture, knowing, understanding and their relationship as well as concepts such as diversity, identity, experiences and one’s own intercultural thoughts and feelings” (Scarino & Liddicoat, 2009, p. 35). Similarly, Thornburg (2013) refers to Caves as the home of cognitive understanding of the material. Caves, depending on the learner, may or may not be solitary places. Importantly, Thornburg (2013) highlights the fact that the teacher’s role is twofold: to provide the space for reflection and something to reflect on.

The fourth and the last learning space in Thornburg’s Holodeck learning environment is referred to as Life. This learning space provides learners with an opportunity to demonstrate that they understand what they have learnt and to apply that knowledge to practical real-life contexts (Thornburg, 2013). According to Thornburg (2013), the learner continues the learning process through applying what they have learnt in authentic situations and sharing the application with others. In other words, learning in this space continues through practicing and applying knowledge gained in the previous three learning spaces in real-life situation.

The four elements of Thornburg’s metaphorical learning Holodeck provide program designers with a flexible and universal model of an effective learning environment, which superimposes features of any specific pedagogy.

Thornburg’s (2013) Model of a Learning Environment and Its Four Learning Spaces at Bond University

The Holodeck: A Learning Environment from a Student Perspective

This section explores whether the TESOL and Spanish programs at Bond University fulfil the requirements of an effective learning environment. Each section first presents the evidence selected from the program design and curriculum. Next, students’ TEVAL comments are investigated for the references to the four elements of the Thornburg (2013) model of a learning Holodeck. Table 1 presents all student TEVAL comments and it shows that, although the

distribution is uneven, all the elements of the Holodeck model of a learning environment are referred to in the student remarks.

Table 1

Student comments on elements of the Holodeck as a learning environment

No.	Elements of the Holodeck as a learning environment	Student comments
1.	Campfire	80% (109)
2.	The whole subject: the Holodeck?	11.9% (16)
3.	Watering Hole	3.7% (5)
4.	Cave	3.7% (5)
5.	Life	0.7% (1)

The majority of the comments made by the students concerned the first learning space, Campfires, or the home of the lecture. The second cluster of the responses were comments referring to all of the program elements, the whole Holodeck. Watering Hole and Cave were mentioned by a smaller group of five students each. Only one remark was made when referring to the fourth learning space, Life. Next, each of the four learning spaces in Bond University programs are addressed in detail.

Campfires at Bond University TESOL and Spanish Programs

As far as Campfires are concerned, Bond University programs provide this space for both online and brick and mortar students. The programs offer both synchronous and asynchronous resources. The synchronous resources, where learning and teaching occurs at the same time, include live lectures on campus and live lectures online, using Blackboard Collaborate. Both online and on-campus students also participate in asynchronous learning, which involves watching the pre-recorded lectures, either recorded earlier by program lecturers or made available from educational sources.

While analysing student TEVAL comments, this space also was identified by students as the most significant. Out of 136 student comments, 80% (109) of the comments made very positive references to Campfire, the home of lectures. Table 2 details the topics of students TEVALs and it demonstrates that teacher's teaching is the most important aspect of student positive learning experience (Coe, Aloisi, Higgins, & Major, 2014).

Table 2
Topics of student TEVAL comments: Campfire

No.	Campfire: student TEVAL comments	Student comments
1.	Teacher's teaching	62% (37)
2.	Teacher's knowledge	15% (9)
3.	Liked the topics	15% (9)
4.	Teacher's experience	8% (5)
5.	Total	60

The table above demonstrates that the majority of students in this category, 62% (37), made positive references to teacher's teaching (1), and that teacher's knowledge (2) and the topics students liked (3) were appreciated by 15% (9) students each. Teacher's experience (4) was valued by 8% of the students referring in their positive comments to teaching and teachers. Examples of student quotes concerning teacher's knowledge and skills are included in Table 3.

Table 3
Students quotes on teacher's knowledge and skills

No.	Teacher's strengths	Knowledge and skills
1.	Teacher's knowledge	'teacher is knowledgeable; experienced; with impressive depth of knowledge'
2.	Teacher & teaching content	makes content authentic; makes it relevant; directs me when I am confused; prepares highly valued activities; explained concepts and theories: interestingly, easily, thoroughly; introduces remarkable and relevant topics
3.	Teacher, tasks, & activities	enables the environment that engages us with the lesson engages us with the tasks at hand; involves us in activities; always keeps the class engaged throughout the lesson

Student remarks referring to specific characteristics of a teacher form another large cluster of 49 comments. The students made positive comments about teacher's learner-centredness and they appreciated the fact that the teacher provided a positive learning environment. The teacher attributes emphasised by the students included teacher's willingness to support and help them and to encourage and inspire them in their learning. It was important to students that the teachers were approachable and they valued teachers' positive personality and attitude.

Overall, examples from the Bond University program design as well as student TEVAL comments, provide the evidence of addressing the require-

ment of the first learning space in Thornburg's (2013) framework. Therefore, the programs address the first element of a successful learning environment as a Holodeck. The qualitative data also suggests that teachers, their knowledge, skills and 'soft teaching skills' (Webb & Vallero, in press b) are of particular importance to the students, that the Campfire element is addressed in the Bond programs, and that students value quality lectures and lecturers as central to their successful learning.

Watering Holes at Bond University TESOL and Spanish Programs

Thornburg's (2013) Watering Hole, the home of social interaction between peers, is the second learning space explored in the TESOL and Spanish programs at Bond University. Bond University TESOL and Spanish programs, which are offered both, in the brick and mortar physical classrooms of the Bond University campus, as well as in an online mode of delivery, provide Watering Holes for students of both cohorts. The brick and mortar campus provides many Watering Holes, and students who undertake their studies on campus can utilise the many physical spaces for meeting with their peers outside the classroom. These learning spaces can range from the collaborative learning spaces on campus such as Multimedia Learning Centre or the non-quiet parts of the Bond Library, to a coffee shop or a bar.

Surprisingly, considering the technology regularly employed for online learning and the explosion of social media, it is still easier for some educators to picture students talking during the break outside the classroom, than envisaging them communicating digitally (Webb & Vallero, 2017, September). In the physical classroom, students communicate during and after the class. The virtual classroom allows online students to do the same, by using many interactive tools, for example, the chatroom, the whiteboard in the Collaborate Ultra environment, the camera and audio tools. Additionally, the online classroom is always open for them to drop in and work with their classmates. Online students, similarly to on-campus students, can participate in a lecture and exchange ideas with their peers in small groups. The differences between the way the two cohorts use Watering Holes blur even further as the students of both modes of delivery use digital communication tools extensively. Watering Holes for both groups also include learning spaces made possible through the use of Facebook, email, texting, messenger or WhatsApp.

As far as the Bond University student comments concerning the Watering Hole are concerned, some students made very positive comments highlighting the importance of this learning space. Interestingly, however, all the five comments in this category were made by the online students only. They all refer to the interactions within the Blackboard Collaborate and its tools. The online

students stated that they “really enjoyed the interaction in the Collaborate tutorials,” others added that “online sessions were very personable.” The remaining comments emphasised the effective use of the Collaborate sessions which allowed for rich student to student interaction.

This section demonstrates that the TESOL and Spanish programs at Bond University address the Watering Hole criterion for a successful pedagogy designed by Thornburg (2013). The only difference between the online and the brick and mortar students is the utilisation of the physical learning spaces on the Bond University campus. Both cohorts, students studying on campus and online, participate in the Watering Hole activities, in their physical and online classrooms, and through the use of digital media.

Cave at Bond University TESOL and Spanish Programs

Caves are the third learning space identified by Thornburg (2013) as part of the Holodeck model of the effective learning environment. Caves refer to the element of learning where learners can reflect on what they have learnt so far. This is, however, not just the space for reflection and the teachers need to prepare something for the students to reflect on. For Bond University TESOL and Spanish students, that includes asynchronous resources prepared for the students and delivered through the Blackboard Learning Management System. These resources are accessible for all the students, on-campus and online, via the designated subject website. They include reflective learning activities, tasks students can complete throughout the semester, self-tests, and weekly quizzes.

As far as the evidence from the TEVALs is concerned, students identified and pointed to the importance of the Cave activities. Similarly to the Watering Hole learning element, only five students (3.7%), highlighted its importance. Three students made positive remarks specifically referring to weekly revision tasks: “the weekly tasks made sure we were practicing outside of class to improve our learning” and two stated “the weekly tasks were helpful.” Two other students emphasised the importance of weekly quizlets and self-assessed quizzes.

The evidence provided by the instructional design of the programs, supported by student comments indicates that the TESOL and Spanish programs at Bond University take into consideration the third learning space defined by Thornburg (2013), Caves. Students undertake these reflective learning activities and the recognition of their importance is demonstrated in some TEVAL remarks.

Life at Bond University TESOL and Spanish Programs

The fourth element of the Holodeck learning environment, Life, is the learning space where it all ties together, where students demonstrate what they have learnt. In the Spanish programs, the application of Spanish language in real life is interwoven in authentic, interactive, and communicative tasks which students participate in regularly during the class time. They also have regular tasks set up via Learning Management System. These weekly tasks have been discussed in the Cave learning space but they also include authentic language tasks.

In the TESOL programs, that application of knowledge is evident in the subjects which bring the theory of language learning and teaching into classroom practice. The practical subjects in the TESOL program provide the space for the students to observe teachers in the classroom, to design language programs, tests, and lesson plans. Students studying in the physical classrooms and online have to undertake the teaching practicum which is organised, set up and discussed during physical and virtual classes. Consequently, both cohorts of the TESOL program must participate in the learning activities in this learning space such as using and developing the teaching resources, or working on lesson plans. One student commented in TEVALs that “the practicum aspect of this course is especially useful.” Similarly to the other three learning spaces, the fourth learning space, Life, was also documented both through the instructional and learning design of the programs and supported by student response in the TEVALs.

To sum up, the evaluation of the Bond University Spanish and TESOL programs demonstrates that these programs address the learning needs of the four learning spaces defined by the Thornburg’s (2013) Holodeck model of the learning environment.

Students’ Overall Experience of the Bond University TESOL and Spanish Programs

The last category formed by the student comments from TEVALs include the positive comments about students’ overall experience of the programs. A significant number of 16 student responses (11.9%) evaluated the subject they undertook positively as a whole. The student remarks in this grouping focused on remarks describing the subject as “enjoyable learning experience,” highlighting the fact that “all aspects were very helpful.” This means that all of these students appreciated the design of the subject they were enrolled in as a whole. It is tempting to observe that all the elements of learning have been addressed, however, without the specific details of types of student experience, it is difficult to make such a statement. Nevertheless, the student responses sug-

gest that many students found the variety of learning experiences developed by the two programs as providing an effective learning environment.

Learning Environment as a Holodeck at Bond University Spanish and TESOL Programs

The choice of Thornburg's (2013) Holodeck as a framework of an effective learning environment was a result of careful consideration of many pedagogical frameworks. The Holodeck as a conceptual pedagogical model offers noteworthy flexibility and, as a concept, it supersedes traditional notions in curriculum design which often interfere in developing blended, online or mixed mode delivery programs. The Holodeck, in order to form the basis of an effective learning environment, must develop the four learning spaces. Conversely, for any learning environment to be effective, it must provide learners with opportunities to learn in the metaphorical learning spaces of Campfires, Watering Holes, Caves, and Life.

Several steps were undertaken in the process of comparing Bond University programs with the Holodeck structure of the pedagogical framework. The first step of this research project was to determine a suitable model of a learning environment as a basis of evaluating and developing the iterative process of curriculum design in Spanish and TESOL programs at Bond University. The choice of an appropriate learning environment is essential for the ongoing evaluation of the programs and as the diagnostic tool to determine its strengths and weaknesses.

The second step in the process of evaluation was assessing the Bond University Spanish and TESOL programs according to the four learning spaces defined by Thornburg (2013) in the Holodeck. Two types of evidence were selected to determine whether it was possible to categorise the Bond programs into the four Holodeck elements. In other words, the evaluation aimed to determine whether the programs under investigation fulfilled the requirements of the Holodeck, or whether changes were necessary to ensure the development of a successful model of a learning environment. The first type of evidence included information concerning the instructional and content design. The second type of data was drawn from the TEVALs, and the aim of this information was to see whether students observed and valued different learning spaces during their educational experience as a whole.

The result of this evaluative process clearly delineated the view of the Bond University programs as adhering to the principles of the four learning spaces of the Holodeck. Data collected from both sources, instructional and pedagogical design of the subjects and from student responses to open TEVAL questions demonstrated that the programs under investigation take into consideration all

the four spaces, which, in turn, implies that the Holodeck is already in place. Although the aim of the project was to identify the learning spaces in the Bond University programs, and not to undertake the statistical analysis of the student comments, it is noteworthy to observe the significant gaps between student comments concerning the four learning spaces. Accordingly, the majority of comments concerned teacher's skills, knowledge, experience and soft teaching skills such as encouragement, promoting interaction between learners and empathy. Despite the fact that the remaining three learning spaces are well-developed in the program and subject design, they were the topic of comparatively very few comments. This result supports the view that teachers have a greater impact on student achievement than any other source or factor (Stillings, 2015; Coe et al., 2014). The student comments show the students recognise the fact that good teaching practice helps students succeed (Chubb, 2012).

Another very important observation should be added following the comparison of the student engagement in the teaching and learning process in different modes of delivery. The results of the study suggest strong similarity between the learning experience for students who attend classes in the Bond University brick and mortar classroom and students who attend the Blackboard Collaborate sessions. This further indicates that technology employed in the development of the Bond University blended and online programs allows both cohorts to have a very similar learning experience (Webb & Vallero, 2017, September; Malczewska-Webb, Vallero, King & Hunter, 2016).

Additionally, the source of student data, student ratings, also supports the validity of Bond University student responses from TEVALs. Student ratings are considered as having moderate validity in evaluating teaching. Evaluating the quality of teaching is a very complex phenomenon and no methods are considered of high validity. Although the most reliable approach involves a mixed-method approach, student ratings are considered the best, next to classroom observations by peers, bosses and external evaluators, and 'value-added' models (assessing gains in student achievement) (Coe et al., 2014; Chubb, 2012).

Conclusions: Bond University Spanish and TESOL Programs as a Holodeck

To conclude, Thornburg's (2013) framework of an effective learning environment was selected for the purposes of the evaluation and development of the Spanish and TESOL blended and online programs at Bond University. Thornburg's (2013) model promotes the features critical for learning such as learning through interaction, reflection, independent thinking and application of skills, and knowledge in real world situations. The four learning spaces safeguard the essential conditions of successful learning, in any educational

context or through any mode of content delivery. In this sense, the framework is both flexible and universal.

The examination of the elements of the Bond Spanish and TESOL blended and online programs demonstrated that the programs take into consideration the four learning spaces delineated by Thornburg (2013). The students' comments show that the key factors in determining program success are teachers and their development of the learning Holodeck.

It is, however, crucial to undertake further research in order to explore teachers' understanding of the four elements of the learning environment and the ways they can support student positive learning experience in developing blended and online settings.

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Die Entwicklung der Unterrichtsumgebung in gemischtem und digitalem Bildungssystem

Zusammenfassung

Die Entwicklung von Lehrprogrammen in gemischtem (blended) und digitalem (online) Bildungssystem bedarf eines solchen Modells, das die für Erzielung der Bildungsziele angemessene und wirksame Kriterien berücksichtigen würde. Der vorliegende Beitrag bezweckt, ein für Entwicklung und Beurteilung von gemischten und digitalen Unterrichtsumgebungen an Hochschulen geeignetes Modell auszuwählen. Er basiert auf der Praxis, solche Programme zu entwickeln, deren Ziel weitere Ausbildung der Englischlehrer an der Bond Universität in Gold Coast in Australien ist. Im ersten Teil wird die Methodologie des Entwurfs und Ergebnisse verschiedener Konzepte und theoretischen Modellen der Unterrichtsumgebung dargestellt und die einzelnen Elemente des ausgewählten Modells aus der Sicht der Studenten beschrieben. Der Beitrag schließt mit der Diskussion zu theoretischen Grundlagen des Modells und dessen Verwendung für die an der Bond Universität geltenden Programme.

Schlüsselwörter: Lehrerausbildung, gemischter (blended) Unterricht, digitaler (online) Unterricht, Modelle des digitalen Unterrichts