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Assessing the Impact of "More-Flexible" Learning as Part of a Study Program

Abstract

With the increasing use of Flexible Learning approaches in Higher Education at the Zurich University of Applied Sciences (ZHAW), measuring their effectiveness, from both an educational and a participant's point of view, is of particular importance. In response to the limited scientific contributions on this topic, this article presents a possibility of how an assessment can take place: this study analyzes 62 undergraduate student responses to a Blended Learning task and compares the participant findings with a pre-existing educational competency framework.

Keywords

Flexible/Blended Learning, Assessment and Evaluation, Didactic Concept and Impact Assessment, Higher Education

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1   Introduction & Context

Learning accompanies us throughout our whole life and according to LACH-MANN (1997) learning is the process by which a relatively stable modification in stimulus–response relations develops as a consequence of functional environmental interaction via the senses.

Due to the increasing digitization of society, this takes on a new form, which also influences the educational transaction (FLEACĂ, 2017) leading to educational approaches such as Blended Learning (BL), Online Learning, E-learning or M-learning. However, there does not seem to be a universal understanding of the terms so far: if Flexible Education (FE) and Flexible Learning (FL) are seen as umbrella terms for these forms of learning, then the lack of common definition is notable. (CASEY & WILSON, 2005; KIRKPATRICK & JAKUPEC, 1999; NICOLL, 1998).

For clarity, we will use VAN DEN BRANDE's (1993) definition of FL, presented as "*Enabling learners to learn when they want (frequency, timing, duration), how they want (modes of learning), and what they want (that is learners can define what constitutes learning to them)*" (p.2).

Despite the growing popularity of asynchronous and online learning environments (BERKSTRESSER, 2016) it has been proven that quality interaction and social presence can be crucial for both synchronous and asynchronous models (HSU & HSIEH, 2014).

Student engagement is a key element for educational designers (WANG & FREDRICKS, 2014) where different learning preferences, approaches, and styles have different purposes and should not be used interchangeably (RAJARATNAM & D'CRUZ, 2016).

WANNER & PALMER (2015) point out that it is the responsibility of lecturers and institutions to develop "flexible students" and take care of the personalizing of assessment which implies a familiarity with the diversity of the group of learners (FITZGERALD et al., 2013).

Overall, environments should be created to keep students engaged (MCGARRY, THEOBALD, LEWIS, & COYER, 2015), but simultaneously how should outcomes of FL curricula be assessed?

RENNIE (2007) generally describes learning outcomes as specific understandings or skill sets that a student needs to achieve. TE RIELE, WILSON, WALLACE, MCGINTY, & LEWTHWAITE (2016) grouped the intended outcomes of FL Programs into five types: 1) Traditional academic outcomes, 2) Post-program destinations, 3) Student engagement, 4) Personal, and 5) Social well-being, and broader community engagement and well-being.

Teaching engagement, quality of content, access, support services and own performance combined with learning experience are seen as important from the learner's side (DIEBEL & GOW, 2009; CANT & COOPER, 2014). Lecturers, in contrast, need to be able to excel in effective pedagogy, communication and interaction opportunities (DOMIAN & WACHE, 2009). How can this be seen now in the context of the BL?

BL is one approach to FL and can be described as "*the mix of traditional methods of teaching, such as face-to-face teaching and online teaching*" (BLIUC, GOOD-YEAR, & ELLIS, 2007). BL can incrementally deliver adequate learning experiences concurrent with content delivery (HSU & HSIEH, 2011).

GRAHAM (2006) identified increased effectiveness of education, access and convenience, and cost effectiveness as outcomes of BL. Despite these advantages, two major challenges are identified in the implementation of BL approaches: First, student expectation of less work and lack of self-responsibility, and second, lack of educational institutions and technical support for lecturers, including increased time commitment. (PARTRIDGE, PONTING, & MCKAY, 2011; HAMDAN, MCKNIGHT, MCKNIGHT, & ARFSTROM, 2013; VAN DER STAP, & VAN BERGEN, 2016).

As with FL, no single model has yet proven to be effective in measuring BL program effectiveness, but there are some interesting approaches such as the value flow model of LOUKIS, GEORGIOU, & PAZALOS (2007), or the BL assessment

(BLA) framework based on the OECD eBusiness indicators proposed by WONG, TATNALL, & BURGESS (2014). However, as VAN DER STAP et al. (2016) explains, these models do not fully capture the dynamic interplay in an academic environment and therefore have less explanatory power. Therefore, it can be stated that a comparison of models for evaluating the effectiveness of FL and BL is hardly possible. Finally, as DUARTE (2016) finds, educational institutions should find new frameworks which help to compare with others and measure success and growth.

In order to find new frameworks with which educational designers and lecturers of management programs can apply, an open discussion is required beforehand, considering different perspectives.

Therefore, the question arises of how to assess the effectiveness of flexible didactic designs, from both the educational perspective and the learners' perspective.

As there is still no consistent and accepted model in the academic literature for the measurement of outcomes of FL or BL, it is difficult to use existing approaches that attempt to explain didactic designs from an educational and learner perspective. Thus, new ways must be found to measure effectiveness, simultaneously taking student and lecturers' perspectives into account. This research provides a template for possible FL or BL assessment and may be useful to educators who are involved in the process of curriculum design.

This article aims to serve as a discussion contribution in delivering learning and teaching, which may be suitable for flexible educational forms in Higher Education. In this respect, BL was chosen as an appropriate object of research. This research focused on a learning unit case study within the BSc-program for General Management students. A further look at challenges and premises in the literature in answering the question shows the immense variety of determinates in designing an effective and accurate program in a higher education context.

2   Research Approach

This study employs a qualitative, descriptive methodology. Content analysis via qualitative coding methods and thematic analyses are used to capture and present the participant's experiences.

The participants for this study are students enrolled in the English-language, Advanced International Business (AIB) module in the ZHAW Bachelor of Science degree program in Business Administration with a specialization in General Management. Assessments for the AIB module included a Case Study Report and Presentation (CS), Individual Reflection (IR), and an End-of-Module Exam (EoM). This research draws on the first two of these three assessments with 180 students participating in this module during the 2018 Fall Semester.

While the AIB module was not delivered as a "flexible" module per se, the CS provided opportunity for "instructor-offered flexibility" as described by NOR-MAND, LITTLEJOHN & FALCONER (2008), lending itself to four of COLLIS & MOONEN's (2004) five dimensions of flexibility leading to a "more flexible" educational design. The elements of flexibility related to *Entry Requirements, Start & Finish Times,* and *Assessment Standards* were not incorporated into the CS assessment; all others were represented to varying degrees.

The CS focused on the internationalization effort of a European-based company in the beverage industry. The CS required students to work in self-formed groups to address questions related to the internationalization plan, taking into account various international business (IB) factors.

In the IR, students submitted a one-page, individual reflection on the module. This assignment was presented as "*an opportunity for you to describe your experience in the AIB module, and explain how that experience has changed you or helped you to grow and develop.*" Students were not requested or instructed to write specifically on the CS, but rather to reflect on the module and the experience of learning.

Upon examination, 62 of the 180 submissions for the IR assessment mentioned the CS, and it is from the roughly 6,500 words in these 62 individual reflections that

the data for this study is collected. Data saturation point was not defined, as all 62 entries were deemed relevant.

3 Analysis

3.1 Educational Perspective

ZHAW's Competency Framework (BAUMGARTNER, MÜLLER, JAVET, & WOSCHNACK, 2016) was used as the pre-defined themes and categories to address the educational perspective. The aim was to see which, and to what degree, the academic competencies were addressed by the CS task. The themes and corresponding categories are given in Table 1.

Table 1: ZHAW Competency Framework (BAUMGARTNER et al., 2016)

Competencies/Themes	Skills/Categories
Theme 1: Professional Competence	• Knowing and understanding subject content of theoretical importance and practical relevance • Applying, analyzing, and synthesizing subject content of theoretical and practical relevance • Evaluating subject content of theoretical and practical relevance
Theme 2: Methodological Competence	• Problem-solving and critical thinking • Scientific methodology • Work methods, techniques, and procedures • Information literacy • Creativity and innovation
Theme 3: Social Competence	• Written communication • Oral communication • Teamwork and conflict management • Intercultural insight and ability to change perspective
Theme 4: Self-competence	• Self-management and self-reflection • Ethical and social responsibility • Learning and Change

The anonymized data was coded, deductively, against these categories by two independent researchers using frequency coding, with inter-coder agreement given at ca. 90% indicating a high level of reliability according to NEUENDORF (2001). Over 300 occurrences were recorded and tabulated for further analysis (*cf. 4.1.5*).

3.2 Participant Perspective

In order to assess the outcomes of the flexible didactic task from the participant's perspective, various inductive methods of coding were used.

Initial coding was initially used to get an overview and "big-picture" perspective, followed by Descriptive coding, and In Vivo coding. (SALDANA, 2013; CRESWELL, 2013) Over 300 Descriptive and In Vivo codes were assigned to ten categories as described below, in descending order:

1. **Learning Experience,** with over 50 entries, includes all mentions of the learning experience which were directed towards the CS and corresponding task.
2. **Application of (IB) Theory** includes codes that describe the application of various IB theories, or text that contains the word "applied" or "apply" in relation to course content.
3. **New (IB) Knowledge &/or Theory** codes include references to the acquisition, increase, deepening, broadening, and strengthening, of international business knowledge.
4. **Importance of Teamwork and Communication** codes, that highlight the significance and development of interpersonal skills, were assigned to this category.
5. **Benefit or Impact of the Task** identifies participants' personal development or benefits not directly related to IB.
6. **Self-management and Time Management** codes refer to self-organization aspects of the task, including the scheduling, pacing, and the importance of managing energy and time resources.
7. **Interesting, Relevant, Enjoyable;** A sub-category of Learning Experience, focuses specifically on the words "interesting", "enjoyable", and "relevant", as these three words were frequently used (and often co-located) when describing the learning experience.
8. **Challenges** includes the personal, process, and broader, group-related issues that participants encountered during the task.

9. **Skills Development** identifies improvement in academic skills which are not in other categories.
10. **Future Application** suggested future use of knowledge from this task. While this category only had single-digit codes, it was still deemed relevant enough to warrant its own category.

These categories were further combined and condensed into the following themes with their constituent categories:

Theme 1: The Flexible Learning Experience, including the categories of "Learning Experience", "Interesting, Relevant, Enjoyable", "Challenges", and "Future Application"

Theme 2: Knowledge and Understanding, including the categories of "Application of (IB) Theory", and "New (IB) Knowledge &/or Theory"

Theme 3: Interpersonal Skills, including the categories of Importance of "Teamwork and Communication", and "Self-Management and Time management"

Theme 4: Skills Development, including "Benefit or Impact of the Task", and "Skills Development"

The results of these analyses are discussed in further detail in the following section.

4 Findings

4.1 Educational Perspective

4.1.1 Professional Competency (PC)

Participants' robust evaluation of this theme, with 35% of occurrences in the data, represents the most significant contribution to the overall program learnings. Participants' evaluation of relevance and applicability (18%) was especially evident.

The category of Applying, Analyzing and Synthesizing relevant content (12%) Knowing and Understanding (5%) were also well represented.

4.1.2 Methodological Competency (MC)

The categories of Work Methods (9%), Scientific Methodology (7%), and Critical Thinking (5%) were also well defined in the responses, with 25% of the occurrences assigned to the MC theme; this knowledge transfer is especially significant in the context of the BL environment, where contact with the instructor was limited on the FL task.

4.1.3 Social Competence (SoC)

The 16% of occurrences ascribed to this theme, does not fully convey the breadth and depth of SoC development in this task; some of the participants' richest detail and most explicit examples of learning relate to increased social competence. Specifically, the category of Teamwork and Conflict Management (8%) and Intercultural Insight (5%) were noted.

4.1.4 Self-competence (SeC)

Self-management (14%), and Learning and Change (8%) appear as the most significant categories of this theme. However, this may be expected as the data was drawn from participants' individual reflections so there is likely a pre-existing bias towards self-reflection in the data collection instrument. Nevertheless, this theme represents 24% of the occurrences in the data.

4.1.5 Summary of Educational Perspective Findings

Table 2 below, summarizes the findings from the Educational Perspective and demonstrates which competencies are identified by the participants in the FLE. While there is always room for improvement, it was encouraging to see that all four Competency Framework themes were represented in the data.

Table 2: ZHAW Competency Framework Frequency Coding

		Σ	%
PC	Knowing and Understanding Subject Content	15	35
	Applying, Analyzing and Synthesizing Content	38	
	Evaluating Subject Content of Theoretical & Practical Relevance	56	
MC	Problem-solving & Critical Thinking	15	25
	Scientific Methodology	21	
	Work Methods, Techniques, & Procedures	27	
	Information Literacy	8	
	Creativity and Innovation	6	
SoC	Written Communication	4	16
	Oral Communication	8	
	Teamwork & Conflict Management	25	
	Intercultural Insight & Ability to Change Perspective	14	
SeC	Self-management & Self-reflection	42	24
	Ethical & Social Responsibility incl. Time Management	9	
	Learning & Change	25	
Totals		313	100

4.2   Participant Perspective

Participant quotes have been lightly edited for punctuation and grammar but an effort has been made to preserve and present the participant's voice.

4.2.1 The Flexible Learning Experience

The most significant finding from the participants was their description of the FLE itself: Aside from the recurrent "Interesting", "Enjoyable", and "Relevant" entries, the participant's description of the learning experience presented a challenging but rewarding experience wherein they were intrinsically motivated to not only perform in the task, but to internalize the learning and knowledge on the topic of international business.

> *"To begin with, the biggest difficulty and the same time the best experience within this module was the True Fruits case study for me. Since it was not just a small case as a part of an exam as usual, I was able to apply my knowledge in an international business module, which I have gathered during the last two semesters and administered it in a broader context. I am convinced that I have expanded my knowledge and also learned much more through the lessons of the module AIntBus."*

For a number of participants, the FLE represented the highlight of the module; participants wrote how this task was "*the most outstanding project during this course is the True Fruits study case… this experience helped me grow.*" and "*The most impressive experience during the module was to conduct an entire analysis on the company "True Fruits"*". All but one indicated that the FLE was overall, a positive one, with many describing the task as an "*enriching*" and "*valuable experience*".

Many, describing their experiences in this module, emphasized the challenges that this task presented, especially related to group work and time management, but also stressed the rewards and benefits gained from working in this flexible learning environment, especially the opportunity to apply international business theory on a real world case, as described in further detail in the next finding.

4.2.2 Knowledge & Understanding

The opportunity to directly apply theoretical knowledge in a real-world environment was appreciated by the participants in this module and stood as a key takeaway, from both the task and the module.

> *"In my opinion, my knowledge has broadened the most while working on the True Fruits case, which includes an assignment and a presentation. For me, the assignment was significantly important, because I was able to apply the content of the lessons directly on the case. I think the assignment is very close to the real business. My knowledge in the area of international business not only grew because I learned some theory, moreover it developed while adapting it directly on real cases."*

This practical dimension of the FLE, as an effective approach to learning, was another aspect on which participants commented positively:

> *"The ability to link theory with practice was the most useful skill which I gained during this module. This skill leads to personal growth and can be applied in future for any other case."*

This self-directedness in the acquisition and application of IB theory has led to a more apparent connection between theory and practice.

4.2.3 Interpersonal Skills

The challenge of working in a group setting was another prominent finding of this research: Due to the relative lack of structure in the FLE, participants were compelled to self-organize, schedule, and communicate to a degree that they may not have previously encountered in their studies. Conflict management, collaboration, and communication were some of the interpersonal skills that were perceived to have been improved by the participants while performing this task.

> *"The case study report about True Fruits was challenging in the beginning. Not only because of the topic but also because of the time management and group organization. We had some difficulties to start with the*

> *written report because we weren't all of the same opinion about the structure of the work."*

> *"Overall I have to say, even though it was a little nerve-racking, I learned how to manage and divide tasks within the group and how to solve conflicts within the group so that everyone is satisfied, which will certainly be helpful for future work in teams."*

This ten-week task also underlined the challenges of dispersed working as participants found ways to share ideas, give and receive feedback, and empathize with their groupmates:

> *"The main challenge when it comes to team work is possessing both the ability to listen to others, to take on a new role in a group, to deal with criticism and to turn it into something productive as well as the ability to think and to work independently, to rely and trust your own capacities and skills and to speak up for your opinions and ideas instead of agreeing to everything the others want. This kind of works are at the same time challenging and supporting, which is the most effective way of not only making you better at work but also as a human being."*

Improvement of self-management and time management skills were also identified through this task:

> *"During this exercise, I not only acquired a better management of time but I also considerably improved my interpersonal skills. In fact, working in a team is difficult in many ways but it was a great experience for young students like me to learn how to manage a team and how to work efficiently without losing time."*

Program management was available to intervene in cases where interpersonal conflicts arose, which provided an additional learning opportunity, but this was the exception, with most teams self-regulating and mediating conflict on their own.

4.2.4 Skills Development

Aside from the acquisition and application of IB knowledge, and theory, improvements in other areas were also identified; these included improved organizational skills, writing skills, research skills, and critical thinking skills. Developments in confidence, self-awareness, and cultural awareness were also recognized by participants.

> *"Overall, I can say that the (True Fruits) Case has strengthened my holistic/integrative thinking. In general, my knowledge has grown stronger in the field of International Business in this term. After the course, I feel more confident in interacting with international customers and suppliers at my future workplace. Furthermore I feel comfortable with coming up with new ideas about internationalization."*

These skills were not prescribed as a learning outcome of this task from the onset. Thus, this finding represents the most significant synergistic benefit of the FLE.

4.2.5 Comparison of Both Perspectives

The findings above represent the major or most significant themes of the research from the participant's perspective and aside from the Professional Competency/Flexible Learning Experience, roughly align with the themes of ZHAW's Competency Framework, as shown in Table 3 below.

While these are not exact matches in terms of constituent categories, their similitude is worth noting.

	ZHAW Competency Framework Themes	Emergent Participant Themes
1	Methodological Competence	Knowledge and Understanding
2	Social Competence	Interpersonal Skills
3	Self-competence	Skills Development

Table 3: Comparison of Educational and Participant Themes

5   Discussion

In the preparation for the described procedure of the evaluation of student competence acquisition using the example of a BL-task, it was shown that it is not possible to fall back on a previously recognized scientific framework or model.

It became obvious that clearly defined criteria were needed to measure the effectiveness of a BL-unit. In this case, it was based on the ZHAW Competency Framework. However, these criteria can vary depending on the education provider and may also be influenced by different external factors.

In our example, Professional Competency was expressed particularly unambiguous with a third of the respondents mentioning it. This also makes it evident that the young BSc-student's life phase, i.e. preparing for professional life, must also be taken into account. This learning setting has novelty value for the learner and is accordingly regarded as experiential. The educational setting, including the learning input, proved to be critical, and in this case, made a positive contribution to this experience.

With the application of a more flexible learning environment and selected competency framework, the presented approach has shown that the effectiveness of the flexible didactic designs can be measured taking into account the educational and learner perspective.

It became clear that the measure of effectiveness, which describes the relationship between an achieved goal and a defined goal, depends on a variety of determinants and their interdependencies. The choice and determination for the own teaching setting ultimately lies with the educational designer and lecturer.

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