

Hybrid Homework – Blending Blended Learning and Face to Face in four Undergraduate Education Programmes

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Abstract: This paper presents a research-based development of learning designs that seek to deploy the best of both face-to-face and e-learning. That is the elements of face to face (f2f) courses that we acknowledge as productive from prior research and experience combined with the elements of blended learning that we see work in e-learning and MOOC contexts. We call it 'Hybrid Homework' because it is a cross between traditional homework and virtual e-tivities that include other ways of creating activities and gaining participation in the timespan between presence-lessons. The context of the paper is four undergraduate programmes at University College North in Denmark (UCN). The four programmes share a work/profession linked relay between theory and practice. The paper presents an incremental progression from the first makeshift experiments to the latest research-based designs. The paper also shows a constant struggle to exploit and deploy e-learning techniques without 'becoming' actual e-learning programmes. This proved difficult. On one hand, the programmes in the study should not come across as de facto blended learning programmes, on the other hand, the programmes must offer full programmes on all campuses, regardless of the number of students. So, the question is how we can develop learning designs that make it, pedagogically, financially and practically possible to offer full programmes and still maintain the students' experience of high-quality courses. Our studies imply that the students regard e-learning/blended learning as low budget/low quality and that it requires high levels of self-efficacy and motivation, which the students fear they may not be able to deliver. Conversely, the learning designs developed in this study must make teaching and learning at a distance possible without a decreased experience of quality amongst students. In order to offer a pedagogical solution to a complex problem, we suggest an incremental introduction to the principals and techniques of the virtual part of the courses that allow the students to get used to learning through 'Hybrid Homework'. Furthermore, we suggest a uniform and simple 'hybrid homework design' that carries a great resemblance from course to course making it simple for the student to recognize her/his role and what is expected and intended. That is, few, simple and productive digital tools utilized the same way by all lecturers that constitute an easily recognizable 'Hybrid Homework design' in which the students can learn and collaborate.

Keywords: chronotopes of learning, learning designs, blended learning, F2F

Introduction

The concept of 'Hybrid Homework' is developed to solve a problem that is equally pedagogical, financial and practical. It proved to be a complex and slightly contradictory task. On the one hand, it is possible to design brilliant e-learning and blended learning to students who choose to enrol themselves in such a programme (Dau & Ryberg, 2014; Kjærgaard & Sorensen, 2014; Lukassen, Pedersen, Nielsen, Wahl, & Sorensen, 2014; Salmon, 2002; Salmon, 2013; Wahl, Pedersen, Nielsen, Lukassen, & Kjærgaard, 2015). The reasons for choosing e-learning/blended learning are often both specific and individual. The same may be said for students who choose a traditional 'brick n' mortar' university. The students in this study utter an urge for teacher guidance and physical presence as motivation in its own right, thus indicating that the learning strategies needed for successful participating in e-learning are not necessarily present. We were inspired by the learning strategy cases presented by James Paus Gee (Gee, 2010; Tierney, Corwin, Fullerton, &

Ragusa, 2014 p: 179). We found the 'Tabby Lou' case especially interesting. The 'Tabby Lou' case is basically the story of how a middle-aged woman teaches herself 3D modeling for the game SIMS with no prerequisites apart from a computer, an internet connection, and severe intrinsic motivation, that is motivated by internal, identity-forming forces rather than external demands (Dede, 2009). We recommend you read the whole story of 'Tabby Lou' if you are not familiar with it already (Tierney et al., 2014 pp.: 179-181). The moral of the story is that you can teach yourself almost anything if you develop a strategy for learning online and if you have a strong intrinsic motivation. The view that the prospects for learning online are great is also supported by other research in e-learning and blended learning (Dron & Anderson, 2014; Siemens, 2014). However, the shared condition is that the learner is motivated and that the learner doesn't need external supervision or motivational coaching. We second that view, and our data solidifies that the demographics of this study, for the most part, is not intrinsically motivated to an extent where the level of self-regulatedness is sufficient to go directly into an online learning path without extensive scaffolding (Anderson, Spiro, & Anderson, 1978; Gibbons, 2002).

Thus, the development of learning designs has several constraints. We utilize the concept of learning designs to express a shared language for designing pedagogical activities. Describing a learning design entails describing all activities, content, techniques, technologies, pedagogies, collaborations, roles and resources in a shared discourse (Conole, 2012; Dalziel et al., 2016). Thus, developing a shared language for discussing and sharing templates for teaching.

Methodology

The investigations were carried out utilizing the lens of Critical Realism (CR). CR is a methodology for doing investigations of social structures and interactions and, thusly, also education. The methodology was developed in the 70ies by Roy Bhaskar and described in his seminal books 'A Realist Theory of Science' (published in 1975) (Bhaskar, 2008) and 'The Possibility of Naturalism' (published in 1978) (Bhaskar, 1979). CR has since then been further developed by a number of scholars amongst which Margaret Archer, Andrew Collier, and Berth Danermark are prominent and Hubert Buch Hansen, in a Danish context (Archer, Bhaskar, Collier, Lawson, & Norrie, 2013; Buch-Hansen, 2005; Collier, 1994; Danermark, 2002). Education researcher David Scott is an important contributor to the field deploying a CR approach to education research (Scott, 2005; Scott & Usher, 2011; Scott, 2013). CR offers a dialectical view on science that acknowledges both an ontological reality that exists unaffected by our knowledge of it and a reality that exists because we articulate and recognize it. One could thus argue that it offers a dialectical middle ground between positivism and constructivism. Utilizing a CR approach also entails that we are not investigating the phenomena as such (the e-learning interventions) but rather how the application and student experience of the interventions came to be the way they did. In that sense, we could make an analogy between educational research and a court case. In the court case the lawyer is interested in finding the reasons and indices, may be evidence, why the accused did the crime and not the crime itself. The crime happened, now we investigate why and how, etc. and later we will determine how to make amends and assess the right punishment (sentencing). The investigation of how and why is called 'retroductivism' (Chiasson, 2005) in CR and it is a form of reasoning, where we piece together an incomplete image based on an 'immanent critique' (Bhaskar, 2010; Sabia, 2010). The 'immanent critique' is the analytical technique in CR it resembles the post-modernist concept of 'deconstruction' put forth by Derrida (Derrida, 2016) and discussed in relation to the Kantian notion of the 'immanent critique' by later scholars (Curtis, 2014; Wrenn, 2014). 'Deconstruction' and 'immanent critique' differs, however, because Derrida and 'deconstruction' is mainly a textual, discourse oriented technique, whereas, the 'immanent critique' also analyses social interaction and social structures. So, the crime is the intervention, the investigation is the

retroductive analysis that formulates an immanent critique of the intervention and the ‘sentencing’ is the suggestion for how to better the situation for all parties (Kjærsgaard, 2016 p.: 8). The ideation of the suggestion is called abduction in CR. An abduction is a form of reasoning formulated by Charles S. Peirce (Chiasson, 2005; Laursen, 2017; Peirce, Charles S., 1906; Peirce, Charles Sanders, 1998). To make an ‘abduction’ is basically to make educated guesses. The method is to make systematic reflections on your data and to formulate plausible effects of a given intervention. That entails trying to foresee how specific structures and mechanisms may act and cause intended effects of an intervention and develop specific conditions under which the intended effects may become real. In other words; create the best conditions for the intervention to fulfill its intended potential.

CR does not dictate or give methods as such, however, the dialectical relation between positivism and constructivism calls for methods that enable quantification of qualitative data. Hence, methods such as Grounded Theory or Design-based Research may seem like relevant methods for CR research. This study is borrowing techniques from both Grounded Theory and Design-based Research.

Methods

The methods applied should produce data that can inform us on how the interventions could be improved in accordance with the requirements and aims of the project, which is to enhance the pedagogical opportunities to facilitate activities at a distance in the time between presence lessons, conceptualized as ‘hybrid homework’.

Thus, we ask questions in interviews that seek to place an immanent critique of the intervention, Conversely, the interviews also produce data on how the interventions and the conditions under which the interventions work may be improved.

The practical data production techniques were supplemented by desk-top studies. The desk-top studies investigated existing e-learning or blended learning programmes. We looked at:

Programme	Business model	Design	Demographic
OpenLearn, Open University UK (OU)	Free. Suggestions for degree programmes that would qualify the free course but no restrains	Very structured and recognisable design. The same design for all topics and all courses. Makes use of text, audio, video, forums, tests	Students and employees who need a quick update. Potential students of OU
SkillShare	‘Spotify for education’ Teachers make courses and upload them to Skillshare. They get paid according to student participation. Students pay a monthly fee	Very structured and recognisable design. The same design for all topics and all courses. Makes use of text, audio, video, forums, tests	Employees freelancers who need a quick update.
EdX Coursera	Course enrollment is free, however, you have to pay for a diploma.	Very structured and recognizable design. The same design for all topics and all courses. Makes use of text, audio, video, forums, tests	Students and employees who need a quick update. Potential students of OU

The shared trait amongst the analyzed programmes is that they are built on structured and recognizable learning design. The learner experience is in focus, while the teachers' creativity is limited by the structure of the general learning design.

Based on the desk-top studies we made the hypothesis that the students would articulate a need for more structure in virtual learning designs than in presence lessons.

Techniques applied

We conducted a series of interviews as 'semi-structured research interviews' (Kvale, 2008). A 'semi-structured interview' is an interview that is open to what the context may provide other relevant information. This entails the development of an interview guide and a strategy for 'probing' (Flick, 2009 p: 150). 'Probing' is when the interviewer decides to investigate an answer further even though it may be a slight divergence from the interview guide.

Our interview guide was primarily grounded in the practice of the interventions, that is asking questions directly aimed at the interventions, that the students had taken part in. The probing strategy was directed towards getting to know more about the students digital learning strategies.

We designed and distributed surveys to both students and lecturers. The first surveys were distributed to give a baseline. The second surveys were producing data on the interventions. The surveys were designed as a combination of close and open-ended questions. The close-ended questions were designed with a Likert scale; Strongly agree, agree, disagree strongly disagree. We deliberately chose an even number of answer categories so that we forced the respondents to either choose sides or click 'don't know'. Furthermore, an even number of categories gives us a statistical opportunity to categorize the answers in a positive and a negative category.

The baseline survey was carried out to give an indication of whether the interventions were acting as causal mechanisms in the quest for a quality experience at a distance.

Empiric data

The data has been produced on campus. We visited the remote campus a total of 5 times and distributed 4 surveys digitally.

Students	Nurse Education	Social Education	Finance/Marketing Education
Fall 2017	11 students	4 students	4 students
Spring 2018	8 studerende	5 (6) students	6 students

Lecturers	Nurse Education	Social Education	Finance/Marketing Education
Fall 2017	Field notes + survey Interview	Field notes + survey Interview	Field notes + survey Interview
Spring 2018	2 Lecturers	2 Lecturers	4 Lecturers

Learning cycles	Nurse Education	Social Education	Finance/Marketing Education
Fall 2017	Meetings with key lecturers about the selection of learning goals that could benefit from 'hybrid homework'	Meetings with key lecturers about the selection of learning goals that could	Meetings with key lecturers about the selection of learning goals that could benefit from 'hybrid homework'

		benefit from 'hybrid homework'	
Spring 2018	Shared sessions with all 4 programmes in which we shared experiences and focused on developing a shared repertoire and a commonly acknowledged and understood vocabulary for talking about 'hybrid homework'. Participants: Lecturers, ICT-instructors, researcher, consultant		
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The saturation level of the data production is presumably adequate for testing our hypothesis, however, more data and most importantly more interventions to investigate would have given a more precise view.

Analysis

The analysis of the surveys revealed an age and gender biased population.

Baseline survey population in total: 19 students		
Gender	Male 24%	Female 76%
Age	Age 15-19, 16%	Age 20-24, 53%

This finding indicates that the average respondent is a female student between 20-24 years of age, who have chosen to stay in her local surroundings instead of moving to the city (110 km).

Qualitative survey data

We posed a series of questions related to the students learning strategies because we anticipated a low interest in learning strategies and a frail focus on self-regulatedness.

- When asked about their learning strategies 94% strongly agree/agree that they need the teacher present to learn.
- Only 11% agree (0% strongly agree) that they keep a log/portfolio of their learning processes.
- 72% strongly agree/agree that they take lesson notes systematically
- Only 6% strongly agree and 28% agree that they need time alone to learn
- 56% strongly agree/agree that they need a study group to learn
- 11% strongly agree and 11% agree that they can learn without a teacher present if the conditions were ideal
- 22% agree (0% strongly agree) that they are experienced with learning with digital media and producing digital artifacts (web 2.0)
- 78% strongly agree and 22% agree that they need affirmative feedback telling them if they are on the right track or not.
- 33% of the students have some experience with learning in e-learning courses
- Only 7% have experience contributing to online discussion forums.
- Only 20% strongly agree/agree think that they can learn through e-learning
- Only 27% strongly agree/agree think that they can learn through online discussion forums
- 47% agree that they can learn from teacher produced videos

Condensation of quantitative data

The students are generally inexperienced with other learning designs than f2f lessons. They rely on a teacher present in the 'chronotope' (time/place relation) of the classroom (Mahiri, 2004 p: 217), that is learning in the same place at the same time as the more knowledgeable other (MKO) (Vygotsky, 2012). However, they are (47%) open to the idea that the MKO could be a teacher produced video (Cicconi, 2014 p: 58). Furthermore, they respond (56%) that they rely on a study group as an active part of their learning process.

Condensation of qualitative data

1) The baseline qualitative data consists of interviews with students and lecturers. The protruding utterance is that the interviewees need a lecturer present to feel secure in the learning process. The interviewees also express the presences of a lecturer as the main motivation to study.

2) The end-line qualitative study consists of interviews with students and lecturers. The protruding utterance amongst the students is that the instruction in the 'hybrid homework' must be consistent, clear and unambiguous. Furthermore, the content presented in the 'hybrid homework' must be an enhancement of other resources (textbooks, etc.). The students indicate that the lecturer should anticipate the students' questions and insecurities while making the videos/resource collections and, thus forestall the students' needs in the learning process in the 'hybrid homework'.

3) The shared sessions were conducted by the consultant, the researcher, and the IT-instructors. The aim was to share experiences and to develop a vocabulary for talking about the different 'chronotopes' and the learning designs. During the sessions we discovered general difficulties amongst lecturers to express what, when, how and why of the learning designs in a shared language. So, more questions than answers arose from the first session.

4) The programmes would like more efficient techniques to keep in contact with the students while they do their internships and placements.

Some of the questions were:

- When is it blended learning?
 - Is it blended learning if the students work in groups in the 'chronotope' of same time/same place on campus but assisted by video and web activities and only supervised by the lecturer?
 - Is it blended learning if the students are on one campus and the lecturer is at another campus and the two campuses are connected via video conference?
 - When does a course shift from f2f, to blended, to e-learning?
 - How can a lecturer manage his/her time when the traditional division of preparation, teaching, and feedback has changed?

They are valid and relevant questions; however, we were not in a position to answer any of them clearly and unequivocally. Mainly because the questions entail management decisions and the development of a practice of 'hybrid homework'.

Findings

The most important finding in these investigations are:

- The students ask for clear, consistent and simple learning designs in the 'chronotope' of difference in place/difference in time.

- The students ask for instructional videos/resources that enhance the existing resources (textbooks etc.) and anticipate their needs when they try to learn on their own.
- The students like variation, creativity and organic shifts in the 'chronotope' of same time/same place lessons.
- While in internship or placement the students are mainly focused on the internship or placement and attempt to keep contact with the programme is regarded as an extra assignment and, thus, not as a part of the learning process in practice.

This leads to the guiding design principle that 'hybrid homework' requires, clear instructions and systematic consistency, while f2f can be creative and organic.

Changing the principles influences both the 'chronotope' of difference in time/difference in place and the 'chronotope' of same time/same place because if most of the structured instruction happens in the 'hybrid homework' the creative and organic lessons should contain something else. The discovery resembles the challenges of 'flipped classroom' (Lukassen et al., 2014; Schwartz, 2014; Tucker, 2012). This project only focuses on the 'hybrid homework', however, the development of the pedagogies in the classroom that accompany the 'hybrid homework' may be just as crucial.

The notion of learning designs proved quite difficult to master in practice. The main challenges lay in developing a shared understanding, a shared vocabulary and a shared repertoire of technologies and techniques. So, even though, a learning design should be shareable these investigations show a highly individual process that opens slightly over time to become a shared practice of teaching. The main issue being what Conole refers to as 'representing the designs' (Conole, 2012 p: 103). The lecturers struggle to express the different concepts. The struggle is linguistic, however, it is also a matter of attempting to represent an uncongealed concept, which seems to entail vague and unclear language.

Discussion and Conclusion

Possibly the biggest issue in these investigations is that if 'hybrid homework' is designed by the lecturers then the empiric data suggests that the lecturers should stick to a shared, clear, consistent and simple design. In the cases mentioned in the beginning (OpenLearn etc.) the designs are made by professional e-learning designers to a uniform standard and the lecturers have specifically provided content that uniform standard.

The second biggest issue is to introduce teaching techniques and learning designs that the students regard as low quality and difficult to participate in and, furthermore, differ from what they anticipated when they enrolled.

Other considerations include the discovery that the students have no or little experience in learning academic subjects through video, online discussions, and production of digital artifacts. Most of the students have experience learning simple practical things through instructional videos on YouTube (knitting, cooking, fixing the gears on a bike, editing videos, etc.), however, none of them have participated in a MOOC or supported the f2f lessons with relevant videos from the internet.

Hence, in programmes where either f2f, blended learning or e-learning are the, practically or financially, plausible choice, we suggest an incremental introduction of 'hybrid homework' in which the students gradually have more clear and simple online tasks and where the instruction gradually moves from f2f to consistent learning designs based on the functions in the LMS (Canvas) until the

learning design reaches the critical point where experience of quality, practicalities (lecturer mobility) and financial sustainability meet.

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