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## When Innovative Learning Designs are too Innovative: Creating Relations in Chaosmos

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*Thomas Kjærgaard, Christian Wahl,  
University College North, Denmark*

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### *Best Research Paper Award Winner*

#### **Abstract**

This article presents a study of what happens when the innovative ideas behind a new learning design may be too innovative. The article analysis an implementation process of a new learning design in Nurse Education. The intention with the new learning design was to move away from a *functionalist* approach to teaching and it was developed to motivate and encourage the students to engage in more *situated* and self-regulated learning processes. The investigated course was infamous for low attendance and for unmotivated students. The new leaning design utilised teacher-produced video-clips, role-play and open supervision to qualify the students learning process while they were preparing for the lessons but also during the lessons. The new pedagogical activities were designed to make the learning process more situated and less rigours, thus demanding of the students to develop skills as self-regulated learners who, in turn, would be able to create relations between video content and lesson activities, while forming a *chaosmos*. The video-clips should also scaffold the academic reading during preparation with video-clips. However, the outcome was not as planned. The students did not recognise the video-clips as a significant part of the preparation for the lessons and therefore they were not prepared for the activities that the teacher had planned for the lessons. The article analyses and interprets the students' missing relations between content, activities and their roles as learners. The article suggests an iterative, spiralic process to develop *schemata* and relations to learn in a situated learning environment while forming as *chaosmos* and developing as self-regulated learners.

**Keywords:** preparation for lessons, chaosmos, schema, self-regulated learning, scaffolding

## Introduction

The context of this article is demotivated students at Nurse Education in a course regarded as less relevant by the students. The aim of this article is to provide a philosophical framework for understanding why the students experienced a learning design to be confusing, when the learning design was actually designed to better the situation. Our philosophical framework, our lens, for looking at and understanding the learning design is divided into three perspectives:

- Creating awareness of the students' own level of self-regulatedness;
- Creating awareness of possible relations between what appears to be chaotic elements, while forming a chaosmos;
- Creating a shared understanding of needed schemas for understanding the learning design and for learning in the new learning design.

The three perspectives should help us understand a learning design where teachers and students navigate a chaosmos leading the students to learn in less rigorous context while creating their own strategies for learning in the specific context.

Before we go into details with the framework we will introduce the context in which the new learning design was applied.

### ***About the Context***

The context is the implementation process of a new learning design in Nurse Education. The intention with the new learning design was to utilise the students' preparation time between lessons for the students to familiarise themselves with the academic content and consequently to use the time during lessons for more dialogical activities to provide circumstances for deeper learning.

The development and implementation of the learning design is based on the work of Lukassen, Pedersen, Nielsen, Wahl, Sorensen and Kjærgaard presented in these papers (Lukassen, Pedersen, Nielsen, Wahl, & Sorensen, 2014; Wahl, Pedersen, Nielsen, Lukassen, & Kjærgaard, 2015).

The empiric data notes from the initial study (Lukassen et al., 2014) show that the students are generally motivated by content and activities that seem (directly) applicable in their future profession and, conversely, less motivated to engage in academic activities that they regard as being on the periphery of nursing practice. In that sense they share traits with the students in Huffman and Huffman's study of *study*

*skills* (Huffman & Huffman, 2012). Huffman and Huffman find that the students tend to use the technology that is deemed *useful* either for passing class or for their future practice. Technology that does not directly contribute to passing exams or future practice is thus regarded as irrelevant, which indicates that it is not just a local phenomenon at Nurse Education at UCN. The course, to which the learning design was implemented was a course on “Organization, administration and management” (6<sup>th</sup> semester, programme for Nursing at UCN) that suffered from low attendance and mediocre evaluations. The students generally regard the course as digressing into areas of low immediate interest to them. Furthermore, it seems as if the students did not regard the course as a part of their professional identity formation process, which may also be the reason for the low attendance and low motivation.

The course is an appendicle part of a module that focuses on acute and critical illness. The students think of the two parts of the module as incoherent and contrasting in the sense that acute and critical illness is regarded to be at the core of their budding nursing identity and organization, administration and management is more in the periphery of nursing. The teachers at Nurse Education claim that the course on organization, administration and management could profit from a placement later in the programme, however it is not within the power of this study to reorganise the whole programme. The reason why the nurse teachers suggest placing the course later in the programme is that by that time the students have experienced the need for knowledge on organization, administration and management during their internship. Therefore, there are two organisational issues, beyond our control, that affect the results in this study; the academic context of the course and the placement in the progression of the programme. Organization, administration and management is a growing part of the obligations of a nurse, however the teachers at Nurse Education explain that it is not regarded as a part of the nurse’s core identity amongst most students. In order to overcome these challenges the teacher and her action research group have developed a learning design that is less functionalist and more situated. The aim is to steer away from a teleological *means-ends* logic and move in the direction of a more deontological causal logic. The learning design was an attempt to bridge between functionalism (Welch, 1985) and situated learning (Lave & Wenger, 1991).

## Research Design

In this article we analyse and evaluate the implementation of the learning design and its implications through a critical realist lens. This means that we ask the ontological

question: “if this knowledge is obtainable of the world, what world is it then?”. That is a reciprocal relation to the epistemological question; how is knowledge of the world possible (Bhaskar, 2008; Collier, 1994; Corson, 1991; Elder-Vass, 2007).

This means that we investigate our data retroductively, in the sense that we look back to recreate the circumstance that made the event possible. Thus, we study the causal mechanisms that cause the events that we see in reality (Peirce, 1998). Our analysis of the learning design becomes similar to the work of a detective in the sense that we seek to recreate the traces and evidences for the emerging of the event in order to suggest which actors and mechanisms may have caused the event (McEvoy & Richards, 2003). The purpose of using a critical realist approach is that we want to look beyond the immediately visible facts and concentrate on what might have caused the visible facts in the *event* and thus lay bare possible false representations.

The learning design that generated the *event* for the critical realist investigation in this study was developed in an action research cycle. The cycle was a quest for emancipation through inquiry and reflection (Adelman, 1993; Lewin, 1946). We started the cycle by identifying and pinpointing the problems (lack of motivation, exclusion and idle ICT) that were common, tacit knowledge amongst the nursing teachers but not articulated. Then we developed a learning design that might improve motivation and enhance the use of ICT. This resulted in a redefinition of the relay between preparation and lesson. It was inspired by *flipped classroom* studies in other nursing colleges (Schwartz, 2014) and the more general notion of utilizing video instead of face-to-face lecturing. The reason behind this was that the students said (in a preliminary survey) that they experienced more acknowledgment of learning from supervision than from lecturing. The aim was to create a situated learning environment where the students would be motivated by collaborating on the activities and not only by the risk of failing exam (Lave & Wenger, 1991). The activities included; role-playing, teacher-produced video-clips, real life cases etc. The learning design eliminated all face-to-face lectures instead, the presentation of academic content was done through teacher-produced videos. These videos were supposed to support the students' preparation for lessons in conjunction with reading and other activities.

The learning design was created on the basis, interviews, focus groups and observations. The data collection should investigate how the new learning design worked in practice. We analysed the data and realised that there were major issues with the new learning design (Lukassen et al., 2014). For the second run of the course,

the teacher made a few adjustments to the learning design and the data showed that some of the issues were dealt with. Finally, the results of the study could be concluded and they were:

1. An island of *situatedness* (the course) in a sea of functionalism (the programme in general) requires a lot of explanation and attention;
2. The students need time to figure out how to learn in a situated, learner centred context;
3. The students need guidance to learn how to centre themselves in their own learning process.

Based on these concluding comments on the learning design, the critical realist investigation begins. We re-visited the field notes, focus groups interviews and surveys in order to generate a deeper understanding of why the learning design was not an immediate success.

## **The Philosophical Framework – Three Perspectives**

Before we go into details with the framework, we will introduce each component separate. First, we introduce self-regulated learning as an important skillset for students to navigate the learning design, then we introduce chaosmos for understanding the nature of the learning design and lastly we will introduce schemas as a way understand the learning activities in the chaosmos.

### ***Self-Regulated Learning***

Parts of the learning design required the students to preparing for lessons or work with exercises on their own or in groups. Being on their own both before and after lessons require students to take control over their own learning process. Pintrich (2000; p.453) defines self-regulated learning as “an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment.” Zimmerman (2000; 2002) divides the process of self-regulated learning into three phases: the (a) Forethought Phase where the learner set expectations, set goals and planes the process, the (b) Performance Phase there the learner will self-instruct and monitor the process, and the (c) Self-reflection Phase where the learner will self-evaluate the process. The cyclical characteristics of the model means that learning always builds on top of prior learning. The learners

expectations constructed in the Forethought Phase build on prior experiences formed in the Self-reflection Phase.

A recent study in student's self-regulated learning and metacognitive skills shows that online and on-campus students relies on and find different learning strategies and metacognitive strategies important. In the study, online students indicate that skills like planning, controlling and evaluation are important for distance learning; while on-campus students stated that lack of self-discipline and limited communication skills are barriers to distance learning (Barak, Hussein-Farraj, & Dori, 2016). This indicates the importance that the students can apply different learning strategies to different learning designs. One (the teacher) cannot expect the students to switch from one self-regulated mode into another when a new learning design is applied.

### **Chaosmos**

The Chaosmos is a notion developed by Deleuze and Guattari (1994; p.201), it is based on James Joyce's idea from "Finnegans Wake" that chaos and cosmos are not opposites by rather two points on a continuum.

*[...] as Joyce says, a chaosmos, a composed chaos--neither foreseen nor preconceived. (Deleuze & Guattari, 1994; p.204)*

Deleuze and Guattari, through Joyce, describe art as composed chaos. The outer perimeter of chaos is guided by what Deleuze and Guattari call "the plane of immanence". The *plane of immanence* is a way of describing a reality, which a group or an individual realises as his/her shared repertoire of experience, actions, narratives, possibilities that help them form meaningful relations between, otherwise, chaotic elements (Deleuze & Guattari, 1994; p.36).

In this context, the notion of chaosmos is used to put into words what the students may have lacked in the implemented process of the new learning design. The chaosmos is the force of chaos creates difference (Beaulieu, 2016). That is, when the student's process of creating relations between chaotic emergencies (the activities in the new learning design) leads the student in new constructive and creative directions. The chaosmos also relates to the dialectics of *being* and *becoming*. The chaosmos refers to a state of *becoming* rather than a state of *being*. The state of being would refer to *cosmos*, while the state of neither becoming nor being would refer to chaos in a Deleuzian/Guattarian understanding of the terms (Beaulieu, 2016). The situation of neither *being* nor *becoming* is referring to a situation of a *self* that appears vaguely

defined and the prospect of the *self* developing a more explicit definition is not evident.

### ***Lack of Schemata***

We use the Kantian notion of *Schema* to understand what is needed to learn in new circumstances (Radford, 2005; p.219). In this paper, we use Kant's three types of *schema*: empirical, pure sense and transcendental schema. Generally, the notion of *schema* is a cognitive framework for understanding and interpreting information. It is related to language through metaphors and stereotypes in what Lakoff and Johnson would call "image schemas" (Lakoff, 1990; Lakoff & Johnson, 2008). Furthermore, it is related to "shared repertoire" in Wenger and Lave's theory on "Communities of Practice" (Wenger, 1998).

The schema describes the cognitive competence to interpret information: In language; through metaphors, in behaviour; through stereotypes and in collaboration; through "shared repertoires". The Kantian tripartition of the schema divides the schema into; empirical, sensuous and transcendent schemata (Johnson, 2005).

An empirical schema is an empirical concept that many perceive in similar way.

A pure sensuous schema describes the ability to think systematic abstract thoughts of concrete matter. It describes the abstract system of understanding the invisible complexity of things that appear simple (geometry: triangle, circle).

Pure concepts of understanding are referring to schemas coming from within and affecting understanding of what is experienced. Intuition for example.

The schema is a diagram for understanding the organisation of the event. In this case the teacher's schema is somewhat expressed in the syllabus and the actual experience of learning is the sense experience. The schema expressed in the syllabus is at best an empirical concept.

*"Formal deduction removed from all empirical content, however, Kant argued, cannot yield knowledge. The question then was to explain how abstract concepts relate to their concrete content. In an important sense, the Critique of Pure Reason is an attempt to achieve this goal and the schema, in fact, was Kant's answer."* (Radford, 2005).

The syllabus is an abstract concept created through the teacher's deduction of prior experiences in relation to the outcome of new circles of reflection. In the sense that the teacher reasoned:

*Priming* an academic subject to the students is important, letting students watch a video before lectures will *prime* the students memory and make room for more motivating activities what seems more meaningful to the students.

This deductive approach to reasoning was, unintendedly, used by the teachers while designing the learning design. The design process was *passive* so to speak, it did not involve empiric experience it was solely build on the theoretical deduction of an alleged relation between video, role-playing and motivation. Even though the syllabus gave instructions of how to use the videos, it does not say anything about why. So, the students didn't have a clear idea of what purpose the videos served? The students were used to reading syllabuses and they had a fixed impression of what teaching meant, so when bearing elements are changed, the students prior schema does not seem to fit the new design.

### ***Scaffolding Schema through Chaosmos***

We suggest a scaffolding structure for gaining both self-regulatedness and schema. The need for scaffolding the students learning process became evident we analysed the empiric data produced in the implementations process (see section below). The notion of combining scaffolding and schema is derived from the work of Aída Walqui (Walqui, 2006).

### ***Framework***

In the bottom of the framework the individual elements (the coins) represent individual learning activities in the learning design. They are of course part of the learning design or the curriculum but at the same time, they are independent in the chaosmos, here represented by the middle layer. Students navigate the chaosmos engaging in activities. The top layer represent the common schema of the learning design helping students (and teachers) navigate the learning design though the chaosmos. What holds it all together is Self-regulated Learning here represented by the outermost cylinder (Figure 1).



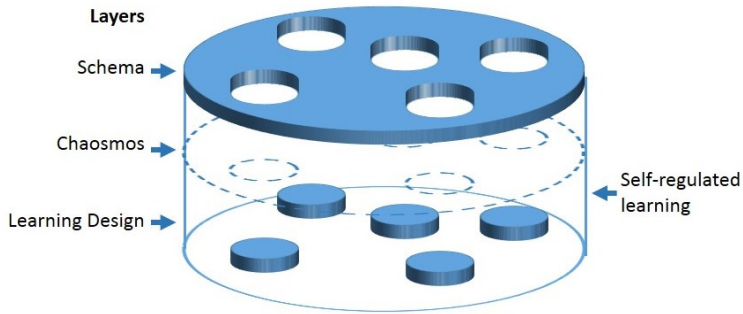


Figure 1. Philosophical framework

Three perspectives on Learning Design; Schema, Chaosmos and Self-regulated Learning. (The model (Figure 1) was developed for this article).

## Analysis

The Critical Realist approach to analysing the context relies on an assumption that what we see might be a sort of a false representation.

This *passive* approach to developing learning designs might be the causal mechanism that triggered the displacement between the teachers expectations of how the students would engage in learning within the new learning design and how the students actually reacted in the real *event*, the lesson. In Louis Radford's article "The Semiotics of Schema" (Radford, 2005) the schema is described as a vehicle for understanding that requires active interaction between information and the learner:

*"The schema entails of an individual who, to acquire knowledge, has to become active" (Radford, 2005; p.147).*

The schema is like a catalyst in chemistry. A substance that makes the process happen in a certain way without actually including itself in the process.

*"...in Kant's theory of knowledge, the schema exhibits or unveils its concepts – it does not produce it." (Radford, 2005; p.147)*

If the schema is not present, the concept remains undisclosed or even uncommunicated.

The teacher explains that the intentions with the action research cycle were to create a learning design that:

- Bridged between functionalist and situated approaches to learning;
- Create an environment of *concrete labour* that focuses on the intersection between theory and practice;
- Reformat the teacher role to become closer to the learning processes work-groups;
- Make her (the teacher) part of the students learning process more involving;
- Make her (the teacher) part of the lectures non-interchangeable with technology.

These intentions were mostly communicated through text in the syllabus and not at all during the lessons.

The syllabus was presented on the campus LMS as a resource webpage containing all relevant information about the course (Figure 2).

Administration, organisation og ledelse

INTRODUKTION TIL ADM.ORG.LEDELSE

Kære alle på [redacted]

Velkommen til Tema 3, som omhandler Administration, organisation og ledelse. På temataet vil I stifte bekendtskab med både forelæsninger - fzf eller som videoptagelse, studiegruppearbejde med og uden vejledning, casearbejde med spørgsmål, diskussioner, quiz etc. Temataet er opbygget omkring læringsmetoden "flipped Classroom" med henblik på at øge jeres læringsudbytte af undervisningen, derfor er det for jeres læringsudbytte meget vigtigt, at i har set videoerne. I skal være opmærksomme på, at PP til øvrige lektioner (ekstern uv. samt Evidensbaseret praksis) forefindes i mappen Minitema Administration, organisation og ledelse.

Husk at medbringe jeres computer, tablet eller smartphone til alle skemaets lektioner på tema 3

INDHOLD TIL LEKTIONERNE - KVALITET OG IMPLEMENTERING

Lektionerne vil bære præg af aktiv deltagelse, hvor vidensgrundlaget bl.a ligger i den anbefalede litteratur samt videoforelæsningerne.

Modulet starter som bekendt på torsdag d. 22.05 (se nærmere på Web-Units)

Indhold til de tre lektioner er opbygget ud fra følgende: Tid til spørgsmål til videoerne og faglige uddybninger, studiegruppearbejde, samt forskellige arbejdsformer.

PP til lektionerne [Kvalitet og Implementering DUIT.pptx](#)

STUDIEKURSUS ARBEJDE - INDHOLD OG ARBEJDSMETODE

Udover holdundervisning i tema 3 på modul 10 er der planlagt et

Figure 2. Excerpt from LMS

The introductory text is referring to *flipped classroom* and other teaching principals/methodologies that the teachers seeks to utilise in the course, it also refers to the official curriculum for the course. These references are properly not that useful to the students. It would presumably have been more fruitful to align expectations and demands of how to actually take the course.

The students in the focus group explain:

*“I just logon, get the PowerPoints and logout again” – Student 1*

The student is trying to assimilate to the new learning design by maintaining or recreating the learning design that she is used to in the new learning design, and at the same time limiting the usefulness of the technology (Huffman & Huffman, 2012).

*“If there are any notifications somebody copy it and post it on Facebook” – Student 2*

The student utters a common tendency, which is that LMS is marginalized in favour of social media. The teacher’s efforts to utilise LMS functionality to improve her learning design proved to be in vain.

*“We lack a connecting thread - we put something on the LMS, we get feedback or comments - that never happens” – Student 3*

The students wish for more online interaction and feedback. Uploading to LMS without getting feedback seems redundant, almost provocative to them.

*“When posting a question on the Facebook group you just know that 60 people will see it and somebody will give an answer” – Student 4*

The students use the rhizomatic, a hierarchical nature of networks in social media, which is in direct opposition to the arborescent, hierarchical organisation of the LMS. This notion is interesting in the sense that the intention with the learning design was to produce a map of possible routes to learning and not a trace to follow. The intentions with the learning design wasn’t communicated clearly or understood by the students, in either case it seems like both students and teacher want the same thing; a plateau of intensity in a rhizomatic network of learning, but they don’t quite level with each other in terms of how to construct the plateau (Deleuze & Guattari, 1987).

The syllabus is very well organised and it presents the resources and content of the course very clearly, however it is done in a functionalist way in the sense that one element has a specific function and it is a means to achieve a specific goal from curriculum. The different elements are not situated in the intended context. The syllabus centres its focus first and foremost on content and second on form it doesn’t

describe what the students are expected to do or how it fits into the situatedness of the learning design.

In the terms of the John Biggs the teacher is in the process of “obtaining an armoury of teaching skills” (Biggs & Tang, 2011). That is, moving from level 1 to level 2 in Biggs and Tang’s levels of recognising ones role and obligation as a teacher towards the students learning needs. The levels could be described as follows (Biggs & Tang, 2011; pp.17-20):

1. Is concerned with what the students are; lazy, unprepared, good, creative etc. Teaching revolves around content and possibilities are limited because the teacher is fixating on what the students are. Teaching style; lecturing. Technology; PowerPoint.
2. Is concerned with what the students do in relation to teaching; make videos, cooperate, appear active, participate etc. Teaching revolves around form and activities the possibilities are unlimited anything could be a learning resource. Teaching style; facilitator. Technology; any.
3. Is concerned with how and what the student is learning; heutagogic study skills, feedback and content channels align etc. Teaching revolves around a synthesis of content, form and learning skills. Teaching style is problem based, reflective and relational.

In the interviews and in the first action research cycle the teacher expressed an urge to move away from blaming the students for poor attendance and low motivation and instead take on the challenge of changing her teaching to develop a new more inclusive way of teaching the curriculum for the course. Now she will be moving to level 2 and now she will be the one to blame for any unsuccessful evaluation of the course according to Biggs. The intentions with the new learning design was to centre the student in his/her own learning process and decrease the teachers’ experience of the students being at the periphery of their own learning process. In the teacher’s opinion the students only immersed themselves in the learning process if the content was relevant for exams or for immediate use in a basic understanding of nursing practice. The teacher’s shift in teaching principal could be visualised in a model used to describe learning in an “Open Source Learning stream” (Kjærgaard & Sorensen, 2014; Kjærgaard, 2015) (Figure 2).

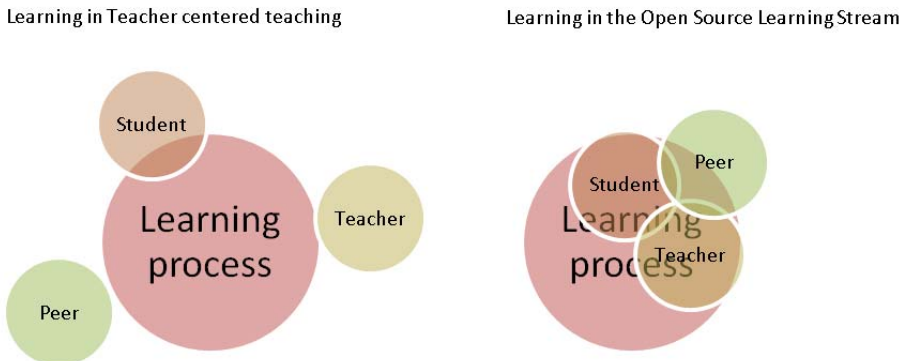


Figure 3. Reconfiguring roles in the learning process

The model shows how students relate to learning in a teacher centred lesson and how they relate to learning in an Open Source Learning Stream (shared learning process in a synchronous stream of learning). In the teacher centred lesson they mostly off-load (Salomon, 1997) throughout the lesson they don't really engage in cognition. Off-loading is the process of documenting the lesson in a system that is not proved to work without the purpose of later cognition:

*“What would we say of individuals who off-load some of their cognitive processing onto a computerized expert system without having learned to provide it with appropriate inputs or to read its outputs properly, without having learned to doubt the system’s accuracy or without mastering the skill needed to weight the alternatives it provides?” (Salomon, 1997 p: 127)*

The computerised system could be LMS or note-taking in PowerPoint, which is very common for these students. They off-load the overload of information that the lecture provides into systems that they might not be capable of operating properly. In the Open Source Learning Stream it is quite different because off-loading and cognition becomes one and the same in the learners route from legitimate peripheral participant to member of community of practice (Lave & Wenger, 1991).

The teacher wanted to establish a situation where the students would be forced to take centre stage in their own learning process. The video-clips should solve the problem with unreflected off-loading because the video-clips opened for the opportunity to take some of the stress of the synchronous learning situation, that lecturing bring, in the

sense that the students now had the opportunity to revisit the teacher's presentation of processed academic content in a cognitive progression:

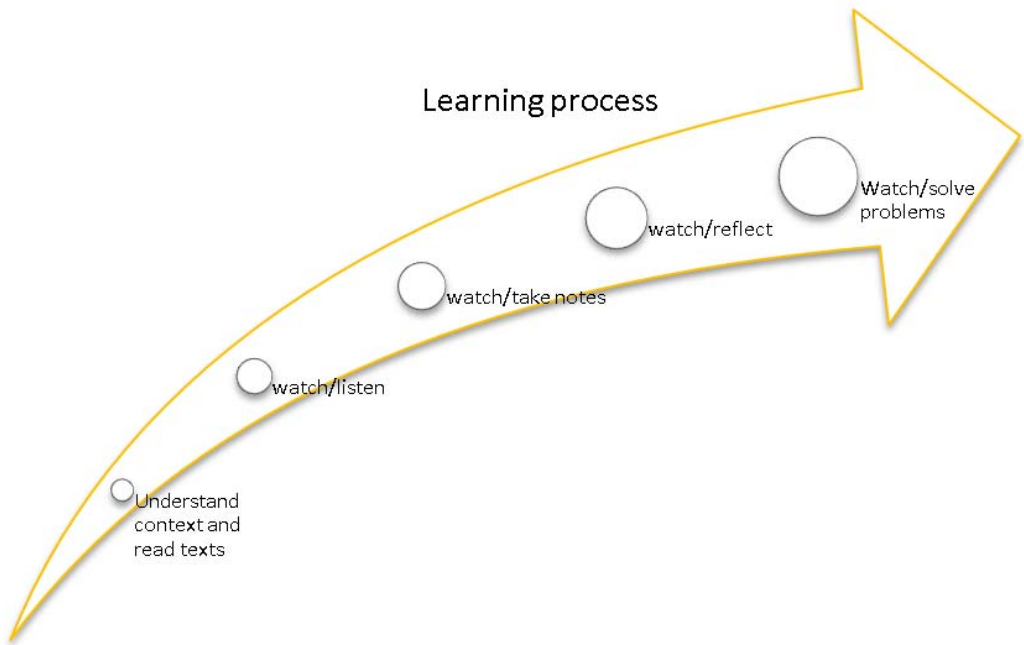


Figure 4. The progression of the students' use of video clips for preparation

The new lessons had no forward momentum in themselves, there were no lectures tracing the route of the lesson which meant that the student/group had to bring forward momentum to the learn process themselves.

## Findings

The students were expected to lack schemata, but the interesting part is that the teacher actually also lacked schemata. She also had to figure out how to operate the new learning design. During the action learning cycles leading up to the design process the other members of the research group influenced her. She was new to many of the suggestions that came forth in the action research conferences, which mean that she was to an extent assimilating her own practice to the new design without fully adapting the principles of the new design. This lead to a discrepancy between her expectations of what the new design could bring to her teaching and what actually happened.

In the interviews, the students explain:

*“I just gave up reading those 70 pages - I was thrilled watching the videos”*

Videos as substitution for reading – an unwanted side-effect that calls for reconsidering of how the videos should support the students’ preparation for lessons.

*“We don’t need more literature. We just need a connection between what the teacher says in the video and the texts”*

*“They [the teachers] just mention all those theories and models. What we need to learn them is explanations, examples and generally elaborations of what is already in the text”*

The videos did not bring the putative quality to the preparation that the teacher intended.

*“in the video you just saw the PowerPoint, I need to see who it speaking”*

The students rely on a phatic connection between video-clips and teacher.

The second run was better than the first and the third run was a success. This means that the teacher’s own schema building was just as important as the students’.

The teacher explains:

*“The changes that I have made from the 2<sup>nd</sup> to the 3<sup>rd</sup> time, is that I have tried to make the relations between all the elements in the course more obvious. I referred systematically to the work that the students did the day before and asked them to consider what they learned in the next day’s lessons. Last, I wind up the theme trying to get the students to draw on the knowledge they have acquired through the process, by asking them to substantiate their responses / reflections with theory.”*

The teacher elaborates:

*“Moreover, I can mention that after the third time I have become more familiar with this way of working - and have an overview of all the details / elements, which I didn’t have the first time.”*

The findings suggest that there are quite a few considerations to implementing learning designs created through action research. The findings also suggest that a radical change in teaching principal requires a substantial intersection of understanding between teacher and students. Both teacher and students need shared schemata for understanding their role in the learning design.

## **Conclusion**

Action research as a developmental model in teaching has shown a few downsides. The students felt excluded and bewildered. It would have been expedient to include the students in the action research process. The aim of the new learning design was to include more students and to motivate to participation. It would have been fruitful to involve the students the process of designing the course.

The learning design lacks elements of schemata building. The lack of schema as conceptual catalyst results in misconceptions of how to engage in the learning design. The syllabus presented was an agenda for the lessons and a functionalist resource collection. The situated activities that should motivate and include the students were presented as functionalist, teleological *school assignments* and not as situated problem-based cases – even though they were in fact both situated and problem-based.

The students had already established an Open Source Learning Stream in Facebook. The students say that the campus LMS is rubbish and that it lacks feedback from teachers and that Facebook always delivers feedback from peers. This limbo between LMS and social media is not new and a solution properly does not lie in a new *perfect* system but rather in the individual. If the learner/group takes centre stage in the learning process then a *perfect* system is not that important. A mesh of systems including social media and LMS has proved to be fruitful in other studies. An added benefit is that when the students are involved in the selection of digital tools for the mesh then they will have to analyse and discuss the affordances of the digital tools in the actual context. While analysing digital tools the students would engage in a shared meta-learning process that would sharpen their perception of how digital tools can enhance learning processes.



The analysis of the implementation process also showed a few pitfalls, one being that the students use the videos as short-cuts for easier preparation for the lessons. This is positive if the alternative is no preparation but in an ideal context, it is negative because the videos only deal with the digest of the texts. It also shows the importance of making relations between videos, texts, context and activities. The study shows that the videos should:

- Contain instructions on how to use other resources in relation to the videos;
- Contain footage of the teacher presenting the video;
- Elaborate on the content of the texts;
- Not paraphrase texts and other resources;
- Not make texts redundant;
- Be approximately 10-15 minutes of length;
- Contain articulation of the intersection between video, text and activities;
- Be personal to the teacher;
- Be accompanied by activities that necessitates all resources for preparation (test).

The study also shows the importance of developing the students understanding of how they learn and which digital tools are helpful and in what ways. The implementation of a new learning design should address meta-learning as a part of the new design focusing on the self-regulated learning skills applicable to the learning design.

The teacher is the theoretical expert and the specialist in nursing practice and the students are in the process of becoming nurses. Within the intersection between the two positions students and teacher share the wish for acquiring new skills, competences and a higher reflective level. The study concludes that if the teacher does not address this in her reflections on how to design her teaching the shift between a functionalist approach and a situated approach seems difficult.

The three layers that we interpret to be of importance (presented in Figure 1) is the notion that the schema sets the outer perimeter for chaos and, thus, establishes a chaosmos in which the students can develop strategies for self-regulated learning. This interpretation also implies that without the schema the students (and teacher) are prone to experience the learning design as chaotic.

According to the model, the teacher may need to address the outer perimeters of chaos explicitly when implementing a new learning design. As the students explain the learning design becomes *brittle* and prone to create chaotic circumstances instead of delineating the perimeters within which chaos may turn into a chaosmos in which learning is possible.

To put this into perspective, Dave Cormier, who we regard as one of the forerunners of a community and learner centred learning design, also addresses the outer perimeters of chaos. His notions of *rhizomatic learning* (Cormier, 2008; Cormier, 2014) and *community as curriculum* (Cormier, 2008) starts with establishing a structure for learning in a rhizomatic community. Dave Cormier explains it as follows in the course blog (Rhizo14):

*“So we need some structure, at least in the beginning, to make sure that everyone gets to play. Some of this structure can take the form of remediation... where you prepare answers to simple questions that allow newcomers to help themselves. We also need to have an effective way for people to be able to ask the community simple questions and ways to effectively mentor people to a place where they can be fully contributing members of the community.” (Cormier, 2013)*

This implies that we may need other ways of creating and communicating new learning designs. The analysis of the implementation process indicates that a traditional syllabus may not be sufficient for making sure that the learning design creates conditions for learning.

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