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Utilising digital technology for **dialogue and evaluation** – a quasi-scholastic method in action



This article investigates how digital technology can enhance evaluation and reflection through dialogue in a theory lesson in the context of university college teaching. The pedagogical designs in the article vary from synchronous classroom evaluation on smartphones, to online discussion fora as dialogue facilitators. The article suggests methods for assessing engagement/disengagement instead of presence/absence in a theory lesson at a university college. The article compares and contrasts the practical use of Socratic and Online Discussions Forums in order to shed light on their different potentials for application and suggests ways of applying them in teaching.

Introduction

This article presents ideas as to how UC teachers can utilise online discussion forums (ODF) and student response systems (SRS) to engage students in learning and reflection and to make qualitative evaluations of students' learning processes. What motivates the article is a wish to re-define the political term of 'lesson densification' in Teacher Education (Ministry of Education 2013). In practice, 'lesson densification' means more content presented in less time. The individual teacher can't change the amount of lessons in his/her course, however the teacher can change how the time in the lessons is spent.

The aim of this article is to describe and show ways of combining digital technologies that focus on content, reflection and dialogue. The study's focus is on the role of digital technology in classroom-communication and not on how digital technology is a part of the particular academic subject or discipline.

Asking the question: Who is learning from my teaching?

This article is inspired by the three-step progression of teacher practices that Biggs and Tang (Biggs & Tang, 2011) formulate in their research. They identify an ideal situation in which content, form and outcome of teaching synthesise into one phenomenon – quality teaching. The notion is that academically approved content or motivating activities

alone don't make up quality teaching. They introduce the analytical category for quality teaching to be that the teacher is focusing on the students' learning (Biggs & Tang 2011: 17-20). This indicates that we need qualitative expressions of learning in order to evaluate whether the students are learning or not. The qualitative evaluations of learning are often complex and difficult to document, so measures to collect and manage this type of evaluation are needed. Fortunately, the digital technologies for this type of evaluation are already a part of the both teachers and students' repertoire of digital tools. However, they might need a different pedagogical design to operate as mediational means for qualitative evaluation and reflection.

Reintroducing the scholastic method – digital quasi scholastic

First up, the pedagogical design for utilising ODF and SRS as means of qualitative evaluation is slightly different from the pedagogical design that most university college lessons are built upon. Hence, I have designed a quasi-scholastic pedagogical design for evaluating the students understanding of the topic in question. Scholastics is a contended term. It refers to the medieval, monastery tradition for putting forth and maintaining the thoughts and texts of religious dogmatic in the renaissance (Albinus 2015: 340). It bears with it the slightly antiquated and inoperable notion that epistemology isn't flawed and that absolute truth exists in philosophy, physics and in religious texts and that knowledge is a fixed body of thoughts and texts. That aside, the method and the pedagogy applied in scholastics may prove to be a valid framework for applying digital technology to teaching with the purpose of catalysing learning processes through reflection and dialogue.

In a classical scholastic progression of a lesson, the lesson would start with a lecture followed by a conversation that would start as a discussion of different aspects of the academic topic. This would turn into a dialogue leading towards achieving shared knowledge on a higher level, which would result in deliberation of core values and a synthesis of theses in a shared understanding. So, even though the term 'scholastic' is contested the methods and pedagogies might still be fruitful for developing a hybrid concept for teaching when the aim is to create a 'pure place' for learning an academic topic.

The scholastic method has a well-defined progression (Albinus 2015: 54-72, van Asselt, Pleizier, Rouwendal & Wisse 2011: 59-62) that comes in a variety of practical executions.

The mode of execution presented below is a listing of the most protruding traits of scholastics:

- 1 Lectio – the content; reading/viewing content (*devisio textus*) that the teacher or curriculum preapproves. That is, content that in the specific context is believed to be more right and appropriate than other content.
 - a. During the content phase, the students pay attention, take notes and remain quite.
 - b. In a contemporary context, the content-phase could be constituted by video clips.
- 2 Meditatio – reflection; the students write small notes containing their contention or appraisal of selected points of contention in the content. These notes are called ‘sententiae’ and they contain moral reflections on the content.
- 3 Questio – questions to the lection; after all content and notes are collected, the students and the teacher engage in a dialectical discussion based on all content with the purpose of finding the most plausible understanding of the content. The method for reasoning could be either through logic or through discourse analysis, depending on subject.

The progression: input/inspiration (*devisio textus*) <-> reflection/critique <-> reasoning towards meaning could probably resemble a lesson at a university college, the observations done in relation to this article show at least some resemblance to the scholastic method described above. The main difference, though, is that the ‘lectio’ is PowerPoint-driven, and studies show that this takes up more than half of the time that the teacher and the students spend together. That leaves little time for ‘meditatio’ and ‘questio’ and added to that is the tendency to do ‘meditatio’ and ‘questio’ in unmotivated group work. So judged from the perspective of the individual student, the opportunity to actually reflect and reason on the basis of the students own devices is relatively little. So even though the Vygotskyian approach to social constructivist learning in groups is very powerful in the right group dynamics, the findings in this study suggest that the students might need more ‘pure places’ (Scollon 2004: 161) for individual reflection. Group work is great but it needs to be motivated by actual collaboration in communities of practice; otherwise group work is prone to make peripheral participation the norm (Lave & Wenger 1991).

The aim is to apply the scholastic method to catalyse dialogue in a technology rich classroom that is both individual and shared.

Dialogue as vehicle for changing the role of digital technology in the lesson

So the question is: How can we develop the *lectio-media-to-questio* connection with digital technology as catalyst? Furthermore, the question is: How can we develop pedagogical designs that demand a development from assimilation of analogue behaviour in digital contexts to accommodating to the affordances of the digital technology that is already in the classroom?

First up, the digital technologies that the students bring to the lessons were identified in the baseline survey. The digital technologies that the students bring to lessons consist of:

- Laptop computers (approximately 75% PC/25% MAC) 98%
- Tablet computer (approximately 90% iPad/10% other) 2%
- Smartphones 99%
- 3/4G mobile internet access in case of instable campus WiFi

The digital technology provides:

- Instant access to the internet and the knowledge bases that the library provides
- Instant access to networks, both social and academic (Facebook, Twitter or Research Gate, Google Scholar)
- Instant access to multimodal production (notes, create videos, webpages etc.)
- Instant access to instructional videos on YouTube etc.
- Instant access to collaborative platforms such as Google Drive or Microsoft 365
- Instant access to a variety of communication channels (ODF, SRS etc.)

These affordances are not purely positive in an educational context. The unfolding and utilisation of the affordances is

partially a personal process for the student, which means that it exceeds the relation between student and teacher. Each affordance holds non-curricular possibilities that the teachers find difficult or undesired to control or delimit for the student. The baseline survey indicates that there are three strands of dealing with this issue;

- 1 Renouncement of responsibility.
 - Very common. 88% of the teachers define their relation to the students own devices as a practical relation for doing the tasks of the subject/discipline.
- 2 Focus on creating a pedagogic design that demands the utilisation of the affordances of the digital technology.
 - Many teachers believe it holds a great potential to have the students own devices in the lesson (24% agree, 67% partially agree), however many teachers also state that they don't have the needed competences to unfold the potential (5% agree, 45% partially agree).
- 3 Regime of control. This notion came up during interviews, however the notion of control mainly expresses a concern that the students might not benefit from bringing their devices to lessons and that the teachers are insecure about how to deal with the covert activities behind the students screens.

One of the intentions of the pedagogic designs in this article is to address these three issues. That is, to take responsibility, to design lessons along the lines of selected affordances of digital technology and to guide the students' fruitful use of their own digital technology.

The scope of the studies and definitions

In order to find an emphatic approach to the field of understanding possible ways of utilising the students own digital technology, I started by identifying core-elements of contemporary university college teaching. That is, core-elements of lessons, supervision, preparation etc. of shared interest amongst teachers and students. These core-elements were identified in a third survey conducted only at the Teacher Education. According to the this survey (backed up by interviews), these core-elements are: things, behaviours and practices that most of us agree on as founding pillars of good teaching and learning in the concrete case of UC teaching. Judging from the data these are:

- Dialogue with teachers and fellow students
- Relevant activities with academic content (relevant to practice)
- Getting an identity as a learner of a subject

Dialogue was chosen as focal point in this article.

Towards a definition of dialogue

The term 'dialogue' is both a layman's term and a theoretical term. The layman's term covers many meanings, ranging from two people talking to feedback from a computer. In MS Windows, the term 'dialogue box' is used to describe the feedback that Windows gives to the user when Windows needs more information from the user about the concrete context. The layman's term is often opposed to 'monologue' in the sense that 'monologue' refers to one person talking and 'dialogue' refers to two people having a conversation. The word 'dialogue' actually means 'through speech' and it describes a type of conversation where the participants seek to generate a higher level synthesis of two or more differing utterances.

Bakhtin states that: *"The very being of man (both internal and external) is profound communication. To be means to communicate"* (Bakhtin & Emerson 1993: 12). That statement means that we are in constant linguistic entanglement with our peers and our surrounding context. Gadamer (Gadamer, 1983) combines dialogue and Plato's notion 'phronesis' as a certain, wise and ethical way of using language in relation to understanding the world.

In an Aristotelean understanding of knowledge 'phronesis' is the third level of knowledge (techne, episteme, phronesis) and it refers to communication that is 'virtuous', wise, practical and relies on a moral understanding of community, context and content. In the writings of Aristotle, it is also referred to as a type of knowledge that resembles a more elaborate understanding of the contemporary word 'competence'. In Aristotle's writings about Plato's notion of the paradox of Meno (how can I investigate into what I don't know? If I don't know it, I can't see it – if I know it I don't need to investigate it), he writes that phronesis is important in order to learn. In that context, phronesis means to reflect on one's own abilities and knowledge of things while learning new things in order to use what is 'a priori' to open new fields of knowledge and, thus, taking the learner out

	Debate	Discussion	Dialogue	Deliberation
Aim	To win the right to conclude	To bring forth multiple arguments and talk them through in order to find the best solution or to agree in disagreement	To raise questions and to think together To listen without passing judgment To find consensus	To critically analyse topic and possibilities in order to come up with a common solution.
Arena	Politics	Politics, development, organisations	Development, education, private life	Politics, organisations
Actors	Politicians + anchor	Participants and maybe a chair and a rapporteur	Participants + facilitator to create rhetorical framework	Participants + facilitator

Table 1. Schematic view of applied definitions

of Meno's paradox (Gadamer, 1983). Dialogue is the type of communication that conveys 'moral understanding' on the basis of a shared plateau in a shared nexus of cognition with a shared repertoire and a shared purpose, reified in new levels of shared knowledge. The review of the academic field of 'dialogue' indicates four interrelated terms (table 1) that describe the action of conversation in specific contexts and with specific purposes, these are: debate, discussion, dialogue and deliberation (Gadamer 1983, Littleton & Howe 2010, Rockwell 2003):

The intension is to unfold the affordances of the digital technologies in the classroom to foster or just to catalyse dialogue. So, in order to make the digital technology that is already in the classroom a fruitful part of the dialogue and the learning process we chose to investigate Student Response Systems (SRS) and Online Discussion Forums ODF as significant parts of the pedagogical designs in this article. SRS is an interesting technology because it redefines dialogue and the scholastic notion of the moral text-snippet called a 'sententiae' and evaluation in the classroom. ODF is interesting because it is simple, multimodal technology that is already a part of the digital 'toolbox' and because it allows many different types of qualitative expressions, both monological and dialogical and in a variety of digital modalities.

The state of classroom dialogue

During the ethno-graphical lesson observations (24 lessons) for these studies, it appeared as if the communication that takes place in traditional lessons doesn't really correspond with the definition of dialogue. Actual dialogue, according to the definition in this article, mainly happens in supervision on task solving in connection to the pedagogical task that are a part of most lessons. Therefore, if dialogue is important for the student to acknowledge and understand academic topics, then the pedagogic design should set the stage for actual dialogue.

Setting the stage: Student Response Systems for evaluation

SRS are systems that make simultaneous communication between a teacher and students possible via any digital device that is online. The modes of feedback are true/false, multiple choice and short text. SRS started out as proprietary devices that students needed to buy in order to participate in the SRS activity at Universities (Mathiasen 2011, Rienecker, Jørgensen, Dolin & Ingerslev 2013: 281). This practice didn't catch on at University College North and only few experiments have been conducted since 2008. However, UCN does have examples of proprietary devices for SRS (ActivExpression from Prometheon), which are now overtaken by free web services (Socrative and Kahoot).

The development of SRS started in Hollywood in the mid-sixties as Audience Response Systems (ARS). They were used to get feedback from an invited audience after screening of pilots for TV-shows etc. The first use of ARS in education was in the mid-nineties (Lane & Atlas 1996). The system was then used for rudimentary evaluation of how well the students understood the lecture. Since then, SRS has been widely used in universities, especially in the US, but also in a Danish context. Up until recently, the proprietary devices have been necessary to utilise SRS but in 2010-2011, SRS was built into systems like Abobe Connect and open web-based systems started to emerge (Socrative, Exit-Ticket, Poll-everywhere etc.). Furthermore, advanced learning management systems such as Blackboard and Canvas have designated SRS apps for getting instant feedback and evaluation.

Due to the interest in openness and ease of application, the examples in this article are based on the functionality of Socrative.

Pedagogical design

The idea is that you can centre the student in the learning process by enhancing necessary engagement and that you can change the dynamics of the classroom dialogue through the use of SRS. SRS started out as a quantitative evaluation tool but it has developed to include qualitative

forms of evaluation. In this case, SRS is used predominantly to get qualitative, written responses from the students. The option of getting quantitative answers (true/false or multiple choice questions) is rarely used in these cases. The quantitative answers are used in this case as knowledge of how the students relate to a specific claim or a current topic from the news. That type of evaluation often catalyses a fruitful dialogue about the topic and why we relate to it the way we do.

The principal behind the pedagogic design is similar to the scholastic *lectio-meditato-questio* progression and it is the digital technology that acts as non-human agent to re-define teaching or solve pedagogical problems, or enhances possibilities for learning (Fenwick & Edwards 2010: 36). In this case, the pedagogical problem that SRS (Socrative) solves is the problem of low participation in class dialogue and it helps the teacher to focus on the students' learning because it becomes visible who needs supervision or other forms of support for learning. The problem of low participation is reoccurring in many contexts whether it is discussion of academic content or experiences in practice. The survey shows that the participation can be expressed as follows: half of the students participate in the dialogue half the time if you ask teachers. If the students are asked the same question, their answers can be expressed as follows: below a quarter of the students participate often.

Table 2. Survey data showing estimated participation rates

Participation rates	Estimated by teachers	Estimated by students
Most students participate	22% very often, 22% often, 37% sometimes , 19% rarely	13% very often, 25% often, 28% sometimes, 30% rarely
Half the students participate	12% very often, 38% often , 38% sometimes , 8% rarely	9% very often, 24% often, 39% sometimes , 19% rarely
A quarter or the students participate	35% very often , 19% often, 19% sometimes, 23% rarely	21% very often, 34% often , 27% sometimes, 13% rarely
Few students participate	19% very often, 0% often, 12% sometimes, 50% rarely (19% never)	18% very often, 27% often , 18% sometimes, 22% rarely

This discrepancy between what teachers and students experience in a lesson is quite significant. It probably shows the difference in perspective from being an individual student not taking part in the dialogue and being a teacher chairing the dialogue and focusing on the content of the input and not on how many students participate.

So, maybe it is ok that the participation rate is only 25%? Maybe it shouldn't be higher in a traditional lesson? It would probably be difficult to get at higher rate due to time restraints and other practicalities of logistics in a 30-40 student classroom, if we apply a Vygotskian (Vygotsky 2012) approach to learning, that is, if we believe that learning is a relay function between listening/thinking and thinking/uttering in a social context. In other words, the general notion that theoretical learning happens when we use language to express what we think and experience and in turn think about what the teacher and fellow students express, then we also need to create social and communicative circumstances for that exchange of expressions to happen. If the confinements of traditional teaching only let 25% of the students express themselves, then we might need other tools of expression for a more dialogue-catalysing communication. Another thing is that the type of conversation that we tend to call 'dialogue' in the classroom only rarely is dialogue, at least by the definition that this article applies. It seems that the classroom 'dialogue' most often is reified as leading questions or questions that appear to be open but in reality are semi-closed. The conversation in the classroom focuses more on clarifying the content than on communicating the students' understanding of the content.

“What makes a classroom dialogic is the way writing and conversation is used to encourage learning”

(Dysthe 2004: 216) (translated from Norwegian)

Dysthe addresses the way that the teacher sets the stage for conversation during the lesson. Dysthe has a social constructivist approach to learning which means that she doesn't consider confirmation of information as learning (Dysthe 2001: 47-53). So, the learning Dysthe is referring to in the quote is a social process of meaning-making in a situated context. To encourage that type of learning, dialogic means of digital communication might offer relevant affordances and that is why we chose to utilise SRS and ODF.

What is the relation between dialogue and digital technology today?

Judging from a macro perspective, a contemporary lesson in a university college classroom might look surprisingly similar to a lesson from last century. The lesson consists of a teacher and 20-40 students in a classroom or a teacher and 80-120 students in an auditorium. The students listen to the teacher and they take notes on their digital device of choice (according to the field notes from observation). The teacher presents his/her academic agenda assisted by a PowerPoint presentation. The students engage in the activities that the teacher initiates and the dialogue is confined to the time and space of the lesson. As mentioned earlier, it seems like we tend to assimilate analogue behaviours in digital tools (Celsi & Wolfenbarger 2002, Reedy 2008) and the students assimilate analogue student behaviour in the same digital tools as the teacher uses (Huffman & Huffman 2012).

The observations show that most of the students (>90%) are connected to their digital private world and that they engage in multiple discourses at the same time throughout the lessons. Facebook, web shopping, games, news and general entertainment is just a tap away, and even though most students start out focused they seem to lose concentration 12-15 minutes into a lesson and then they engage in personal web excursions into more entertaining discourses on the internet. Most of the students return their attention to the lesson in 3-5 minutes but many the students keep the private discourses open and start switching back and forth between the academic discourse in the room and the personal discourse on their device.

This account of the relation between the students own digital devices and the lesson activities raises a series of questions:

- Who is responsible for the students' utilisation of their own digital technology during lessons?
- Who is responsible for guiding the students in fruitful application of digital technology in their learning process?
- Who benefits from the presence of all the digital technology in a classroom or auditorium?
- Is the way university college programmes are organised working against realisation of the potential of digital technology in teaching and learning?

To answer a few of those questions, the cases in this article are designed to use digital technology in ways that would catalyse learning and equally to make a shift towards accommodating to 'digitality' (Negroponte 1996) in general. That is, learning to learn in the digital networks that surround us.

Responsibility is not about taking control

When 88% of the university college teachers in this article say that it is, more or less, the students' own responsibility to make good use of their own digital technology, the interviews revealed that it is mainly because the teachers don't want to induce a restrictive learning culture in their teaching practice and because they regard control and restriction of internet use as almost impossible.

The general notion in this article and in the cases that are presented, is that taking responsibility for the students' own digital technology is not about setting boundaries, con-

trolling or restricting use but it is about creating learning spaces or lesson activities that utilise the affordances of the digital technology, thus making it an active and fruitful part of the lesson (Kjærsgaard, 2015).

Practice: The cases

Case 1 – SRS

The first case investigates the use of SRS in different academic contexts. One context is a lesson on vocabulary building in English teaching. There are 25-30 students in the classes when this is tested. The academic question is 'How do you expand your vocabulary?' The students answer anonymously and individually and the answers appear on the projector screen. As the answers accumulate we start discussing the content of the answers. The purpose of the discussion is to extract the good and creative practices and make those visible to everybody. In some cases, the input has to be elaborated on by the student (if he/



shewants to reveal his/her identity). In other cases, the input has to be discussed in relation to theories or experiences from practice. The next question is then spun from the previous discussion.

The fact that the cases use only open-ended questions in Socrative (function called 'Short Answer'), entails a practical problem of input overflow. Normally you expect Pareto's principal (20% produce 80% of the content) to work in online communities (Summey 2013: 91-92). Which means that you might encounter practical problems in the lesson when Pareto's principal is circumvented and a participation rate of 100% is expected. This leads to two problems, one being that the inputs go below the page-fold (what is shown on the screen without scrolling), another being that it takes up a lot of time to deal with all inputs. The second problem contains an ethical consideration because if you ask everybody to participate but only lend lesson time to a few responses, then the principal of letting the students take the centre-stage in their learning process and letting all students be heard might lose its momentum. If SRS is used quantitatively, Pareto's principal is not a problem.

Typically, the question that the teacher would have prepared beforehand might not be the most relevant in the new context. This means that teaching becomes an organic process that develops as it happens. This also means that you can never plan the lesson in full detail, which is a bit unsettling to some teachers (and students). Using SRS like this, ensures that all students take part and centre on learning and that the teacher can document the inputs from discussion for later use.

The studies show that the most fruitful utilisation of SRS comes when the topic for discussion relies of a nexus of theory and practice. If the topic is solely theoretical, the discussion is characterised by sustaining or denying arguments and if the topic is based solely on individual experience, the comments are empathetic at best or just irrelevant. An example of a question addressing the theory-practice nexus could be: "How would you apply 'this' theory in year 5 English teaching? – Discuss in pairs and report back in Socrative". So, if the topic is based on discussing a nexus of theory and practice, the personal experience combined with theoretical insights will turn the discussion into an actual dialogue that combines individual written utterances in SRS with shared dialogue in the classroom. Dysthe puts it this way:

“My main conclusion is that even though writing in itself is an important tool for learning then the potential for learning is increased when writing is used in conjunction with conversation and when the teacher consciously designs and supports interaction that utilises individually written texts in a social context.”

(Dysthe 2004: 215) (translated from Norwegian)

Utilising SRS in a qualitative way basically comes down to formulating questions that address a nexus of practice and theory and individual experience in relation to a shared theoretical foundation. That is to create a 'pure place' for sharing 'sententiae'. Along with the teacher's willingness to let the lesson develop as it happens.

The smallest change from a traditional PowerPoint-driven lecture is probably to ask the question that the slide answers in SRS before presenting the slide. After that, the students' responses can be discussed in relation to the teacher's content in the next slide. This procedure was developed in my Danish lessons while trying to make sense of Interactive White Boards (IWB) in UC teaching. I would import a PowerPoint file to ActivInspire (proprietary IWB software) and insert a blank page before relevant slides and have the students discuss a question in groups and fill in the blank page of the IWB. After that, we would compare and discuss the differences in the content. This procedure was very time consuming and unpractical. The logistics of having 30 students move about in a small classroom was challenging and the space constraints on a IWB didn't allow for elaborate answers. So, when Socrative came to my attention, I immediately redesigned the lessons to follow the progression shown in table 3.

The quasi-scholastic progression of the lessons in the case is content + note taking (15 minutes), reflections in SRS (15 minutes), more in depth deliberation in ODF (15 minutes + homework 1-2 hours):

Preparation	First part of the lesson	Second part of the lesson	Last part of the lesson
Designing relation between PPT and SRS and asking questions in SRS	Teacher: Presenting content and asking questions in SRS	Teacher: Relating to practice and asking questions in SRS	Teacher: Starts tasks that augment understanding and lead to next lesson
Reading texts	Students: Note taking and answering in SRS	Students: Working in groups or pairs and answering in SRS	Students: Solve tasks

Table 3. Progression of a quasi-scholastic lesson, example 1

The teacher presents content, the students take notes and write down questions. The questions that the students formulate are posted in Socrative. In the second part of the lesson the students and the teacher discuss the 'sententia' in the SRS, the discussion leads to a dialogue about a selection of the themes. The third part of the lesson then ties the teacher presented content, the reflection and the dialogue together in activities or tasks.

Case 1a – a variation of case 1

A variation of case 1 is using the same structure, however, the content and note taking is moved to the students preparation phase. This creates an opportunity for the student to make a 'pure place' for understanding the content. The content is presented in video clips that the teacher has made in advance. These video clips contain the exact same content that the teacher would have presented in the lesson but it is compressed into a 'nugget' of content that the student can watch over and over again. Other studies show that the students watch the videos between two and six times as preparation for the discussions in class (Kjærgaard & Sorensen 2014). The videos reduce the stress of having to listen, understand and take notes at the same time that the students experience during a traditional lesson. In a case like this, SRS or an ODF serves as plateau for the dialogue.

A schematic overview of case 1a:

Cases 1 and 1a differ quite a lot in practice. Case 1 is applicable without much preparation whereas Case 1a requires that the teacher has produced video content or that the teacher has found resources elsewhere and that the teacher has developed a design for what the actual lesson contains and how the design should be deployed in practice. Case 1a also requires that the teacher is very explicit about how the students should use the design to study, that is, introduce analytical categories for the learning processes so the students know the cognitive framework for learning in the changed context (Kjærgaard & Wahl 2015). It also requires quite a lot from the students who have to acknowledge that the design is benefitting their learning process. So, case 1a is most suited in a context where more teachers than one join together in a shared development in a series of simultaneous courses. This would ensure that the students would get a solid grasp of how to learn in a case 1a setting.

Case 2 – ODF

If the nexus of theory and practice isn't relevant in a specific academic subject, or if the idea of not knowing the direction of the lesson, apart from the overall framework of the scholastic progression of *lectio-meditatio-questio*, beforehand doesn't appeal the teacher, then it might be fruitful to use an ODF to facilitate dialogue instead of or in combination with SRS.

Table 4. Case 1a using teacher-produced videos in preparation in combination with ODF and SRS

Preparation	First part of the lesson	Second part of the lesson	Last part of the lesson
Teacher produces video clips of PPT presentations and sets up and moderates a discussion forum in LMS	Teacher: Uses SRS to extract highlights for the course ODF thread	Teacher: Extends the conversation from ODF and SRS to the classroom	Teacher: Starts tasks that augment understanding and lead to next lesson
Students read texts, watch video clips and engage in discussions forum in LMS	Students: Note taking and answering in SRS	Students: Participate in discussions and take notes	Students: Solve tasks

The second case investigates the use of ODF in different contexts. The first context in case 2 is traditional classroom teaching at the teachers programme. The subject is Danish and there are 25 students present. The ODF is used to enhance the students' preparation for the lessons as well as for enhancing the dialogue in the lesson. During preparation, the students have a series of questions that they have to answer and discuss in the ODF. In order to answer the questions, the students need to consult the lesson-resources (videos, texts, web pages etc.) and in order to engage in a discussion, the students need to think about what the other students write. The ODF content from the preparation then becomes the source of knowledge and further dialogue during the activities in the lesson.

The teacher says:

“I have used online fora before but never in this way. The students have discussed the key elements of the theoretical aspects of literacy and reading in preparation for the lesson so what should we do during the lesson now? “

And she continues:

“The level of reflection in the group activities is higher than normal.”

'Normal' is referring to the same situation but without the ODF as support for the dialogue. The field notes from the observations of the four lessons show that the digital technology in the classroom is utilised for participating in the activities. The students are benefitting from their computers in the sense that they have to use the computer to engage in the activities in the classroom and also during preparation. The rate of private excurses to social media/web shopping is lower than in the other lessons that were subject to observation. Only when the teacher's presentations stretch out more than 15 minutes the excurses begin to occur. The structure of the lessons was not strictly scholastic since both *lectio* and *meditatio* was partially integrated in the preparation for the lesson. The nexus between *lectio* and *meditatio* was elaborated during the lessons, which makes the ODF vehicle for dialogue both in the *lectio* phase and in the *meditatio* phase. This displacement is putting slightly more emphasis on the students' meaning making than in the scholastic tradition.

The structure of Case 2 lessons and preparation for lesson:

Preparation	First part of the lesson	Last part of the lesson
Teacher produces video clips of PPT presentations and sets up and moderates a discussion forum in LMS	Teacher: Content overview based on the course ODF thread. Discussion of content in relation to the theory and practice	Teacher: Starts tasks that augment understanding and lead to next lesson
Students read texts, watch video clips and engage in discussions forum in LMS	Students: Participate in discussions and add content to the course ODF thread	Students: Solve tasks and contribute to the course ODF thread

Table 5. ODF in combination with teacher produced videos



The downside to the pedagogical design in Case 2 is that it is relying heavily on written arguments. Other considerations are: What is the role of the teacher in the preparation phase? And what is the role of the student in the lesson? The teacher has to take part in the ODF during preparation or else the discussion becomes merely sequential hand-ins of answers to questions which doesn't differ that much from having traditional questions for reflection. If the shared dialogue is desired, then the rhetoric of the thread must catalyse more questions than answers and the teacher (or teaching assistant) must facilitate the dialogue. The role of the student changes also because the student has to be engaged in the evaluating negotiations of the relation between the theoretical notions and the practice that they should be applied in.

Schematic overview of the two types of dialogic technologies

The different affordances of the digital applications in the cases are compared and contrasted based on the experiences form in the cases.

The surveys also ask the students about their prior experiences with ODF (private or educational) and it shows a tendency for students to mainly use ODF for seeking assistance on practical problems and for sharing experiences with various hobbies. The motivation to use an ODF is most often that it entails the individual's empowerment to solve problems that would otherwise require physically consulting specialists. Conversely, on a critical note, also lending one's own user data and privacy to finance services that appear free (Carr 2008, Morozov 2012). So the use of ODF seems to be driven by a sense of empowerment on a personal level and practicalities of gathering narrow scoped hobbies or academic interest in one plateau and in addition to that the convenience of freedom from traditional time/space constraints.

Therefore, to motivate students to communicate in an academic ODF requires the students' urge to be empowered in their own learning process and to get agency in learning. That is to centre themselves in their own learning process. They need to feel the sensation of empowerment in the threads of the discussion forum. That sensation could be

Table 6. Comparison of applications

Preparation	Student Response System (Socrative)	Online Discussion Forum (from LMS)
Time	Synchronous	Asynchronous or synchronous
Space	Same place	Different place or same place
Content modality	Short text	Formatted text of any length, images, videos, audio, graphics, links
Technology	Any online, digital device	Online computer (or tablet)
Technique	Easy	Moderately difficult
Anonymity	Anonymous as default, named participants as option	Named participants as default, anonymity as option
Documentation	Downloadable content	Statics of participation, print or download of content
Age of technology	Fairly recent (2010)	A part of internet history. Bulletin Board Systems (BBS) (1978)

the ability to reach an understanding of an academic subject on their own, or just to raise relevant questions, which their peers answer and elaborate on. This notion is not different from what many teachers strive for in traditional lessons, however, the mechanisms in ODF and SRS make it visible if the student succeeds or if the student 'lurks'. In both cases, the acknowledgement that a student is developing heuragogic strategies or that a student needs scaffolding is important to the teacher in order to focus individual supervision.

It is a challenge to gain the students' interest in their possible empowerment in the learning process in ODF. In the qualitative student-responses from the surveys, a student says:

“I don't think that this content needed it [ODF], I felt it was a waste of time...”

(Translated to English)

The student feels that the subject wasn't intricate enough to actually need an ODF to maintain and sustain the dialogue. This statement presumably also indicates whether a student is focusing on his/her individual benefit from participating or if his/her participation could benefit others. That distinction is of fundamental importance because the idea of introducing the ODF is to have a democratic learning space with multiple points of growth (rhizomatic) that most students contribute to and not to maintain a one-way transmission.

The issue of engagement is even more challenging if the obvious, practical advantages of ODF (freedom from

time/place restraints) are suspended by the fact that most communication is done during lessons. That is if the possibilities of sustaining the dialogue outside of the lesson isn't utilised. ODF application requires a pedagogical design that actually utilises the affordances of ODF; otherwise, it becomes a redundant ad-on.

Concluding comments

The practicalities of digital documentation makes it possible to assess the students' activity and engagement in ODF. If we assess student engagement based on their level of reflection in the course threads instead of merely checking for presence in the lesson, we presumably focus more on the students' learning and it becomes another way of densifying the lesson.

If we consult Dysthe or other sociocultural researches of classroom dialogue, it seems as if the ideological way to create space and opportunity for dialogue is almost impossible in practice in a traditional classroom setting in university college teaching. The constraints of curriculum and the organisation of the courses make it difficult to make changes. So in order to suggest changes that are applicable to teaching within the constraints of the given formalities at university college, we suggest further experimentation with a quasi-scholastic pedagogical design that contains the progression: *lectio > meditatio > questio*. 'Lectio' might be a video clip that the students watch 2-3 times in advance, 'meditatio' might be text snippets, 'sententiae', presented and discussed in SRS or in an ODF and 'questio' might be the shared synthesis of both 'lection' and 'meditatio' in ODF.



If the students' contribution to the dialogues are done in SRS or in ODF, the teacher can assess engagement on the basis of the level of understanding expressed in the students contributions. In that way we can determine presence or absence by qualitative measures.

Promotion of dialogue in SRS and ODF

The main problem is how to raise questions that catalyse dialogue, whether it is in SRS or in ODF. However, there are a few possible applications that seem to promote dialogue in the quasi-scholastic context.

- 1) Make students ask question to the class and answer in text snippets, 'sententiae', in SRS or ODF.
- 2) Ask questions that establish a nexus between theory and practice and answer in text snippets, 'sententiae', in SRS or ODF.
- 3) Ask questions that create relations between the students' experience in practice and theory and answer in text snippets, 'sententiae', in SRS or ODF.
- 4) Ask questions that must be answered by a new open question and answer in text snippets, 'sententiae', in SRS or ODF.
- 5) Test statements. Put forth a statement for verification/falsification and answer in text snippets, 'sententiae', in SRS or ODF.
- 6) Test statements. Put forth a statement for elaboration and answer in text snippets, 'sententiae', in SRS or ODF.
- 7) Evaluation: Make students evaluate the relevance or quality of a source and answer in text snippets, 'sententiae', in SRS or ODF.
- 8) Teacher's or teacher assistance's presence in ODF is needed.
- 9) Engagement in ODF or SRS must seem necessary to the student.
- 10) The students input to SRS or ODF must be evaluated and put to use.

The 'sententiae' text snippets could later be organised according to topic in a shared preparation for exam. The organisation could be via hashtags in a Facebook group. This would allow the students to continue the contribution to the topic and it could turn into an 'Open Source Learning Stream' (Kjærgaard & Sorensen 2014).

Possibilities

The potential benefits from using ODF and SRS in a quasi-scholastic pedagogical design are:

- The students gain agency by being engaged in the construction of the academic conclusions during the lesson.
- The teacher gets the opportunity to engage in the students' preparation for the lessons and to lead the negotiations of meaning in the classroom.
- The digital technology in the classroom becomes a necessary part of preparations for the lesson and is also necessary during the lessons because the digital technology drives the communication.

Another interesting potential for deploying a quasi-scholastic progression in teaching is to organise the work around the lessons according to the study-activity model (UC Denmark, 2013).

So experiments with two old and basic digital technologies in conjunction with an ancient pedagogical design lead to a hybrid form of digital and analogue dialogue-based teaching that seeks to evaluate learning qualitatively. The final suggestion is to assess engagement through expressed participation and not through a distinction of presence vs. absence. SRS and ODF lend themselves to just that.

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