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Sorensen, Elsebeth Korsgaard; Brooks, Eva Irene

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Designing Inclusive Reflective Learning with Digital Democratic Dialogue Across Boundaries and Diversities

Elsebeth Korsgaard Sorensen, Eva Brooks

Dept. of Learning and Philosophy
Aalborg University
Kroghstraede 3
DK-9220 Aalborg Ø
{elsebeth,eb}@learning.aau.dk

Abstract. This paper deals with the challenge of designing online learning architectures for master students. From different theoretical concepts and with a netnographic methodological research approach, the paper discusses theoretical concepts, challenges and mechanisms significant to designing and structuring the “walls” of a digital learning architecture conducive to the establishment of a social, inclusive, empowering and interactive learning climate online. It makes a plea for using an approach of dialogic design with meta-structures in the communicative fora in order to promote inclusiveness, reflection, empowerment and ownership amongst learners.

Keywords: meta learning, inclusive, learner empowerment, dialogic, democratic citizenship, collaborative knowledge building, reflection, diversity, digital affordances, quality of dialogue

1 Introduction

Within the last couple of decades teaching and learning with digital technology have grown rapidly all over the Globe. This has happened hand in hand with the increasing development and succeeding availability of digital environments [1], [2], [3], but for different reasons and with different motivations. Some of these reasons are of a rational and economic nature, others are based on different, but equally rational and pragmatic ground. Only a small part of the resulting digital learning architectures is designed with a prim goal of enhancing the “internal” quality of the learning process and design, such as the incorporation of quality criteria such as “inclusion” and “space for diversity” in the learning design.

Parallel to this development, teaching and learning in digital and blended environments offer integrated access to Open digital Educational Resources (OERs). Amongst these, inclusive digital tools and technologies [3]. Among other things, this is happening in order to meet the educational needs of society and to prepare diverse

groups of learners for a growing global learning arena. The educational world needs inclusive approaches when building bridges across diversity - e.g. disciplines, physical distances, and other differences - social, academic and psychological [4].

There is a need for novel learning designs to be incorporating and understanding and will to promote space for diversity [5], [6], (meta-) dialogue, democratic dialogic principles, and make use of inclusive pedagogic strategies in digital or blended learning context and environment.

There is also a need for understanding more deeply the affordances of the digital environments, so this digital potential can be married more fundamentally with innovative pedagogies in order to establish insights in what constitutes a fruitful sustainable digital online learning architecture and process that can work for learner empowerment and inclusion [6].

The aim of this paper is - through the glasses of relevant theoretical concepts and on the basis of an evaluation of the design and delivery of a Master's module - to assert to what extent the learning environment and the learning design prove to be supportive of an establishment of an inclusive and empowering collaborative learning process based on a dialogic approach to design [7]. Does the particular way the module is pedagogically designed, support inclusive collaborative learning and dialogue? Are there specific significant features, of both the virtual environment and the learning design, that seem essential with respect to ensuring inclusiveness, interaction, collaboration and inclusiveness in the online learning process.

2 Theoretical Perspective

Several concepts are relevant for the approach and gaze of this paper. They are presented in the section below.

2.1 Values and Attitudes

Innovative initiatives in terms of designing good quality pedagogic online learning architectures that promote an atmosphere of inclusion, often appear the result of individual teachers' personal bottom-up processes (their own practices) [8].

In the view of the authors, in particular educators, carry a principled responsibility for creating awareness and self-awareness about these issues. It is through education - and what is learned through educational processes - that we cultivate values and attitudes of *good quality*, such as e.g. a *democratic attitude*, an *inclusive attitude* towards our global fellow citizen, learner empowerment and a view of diversity and sharing as a common resource [4].

But, more precisely, what are the goals, challenges and possibilities that we, as designers and educators, face in a context of digital tools and digital environment? To what extent is the dialogic design inclusive in generating important and good quality teaching and learning that work for learner empowerment [9] and democratic global citizenship? How may a conceptual framework, which supports the envisioned goal, look?

2.2 Digital Affordances for Dialogic Inclusion

Digital learning environments are often noted as having a non-hierarchical infrastructure in the communication process [10], [3], [8]. One clear and concrete design potential of digital technology is to provide structure. However, as confirmed by Dalsgaard [10], [11], the formal educational potential of digital technologies and environments cannot be easily overlooked, especially as they empower the learner's in terms of *agency*. The learner's possible initiatives are strengthened in two ways: *Dialogic participation* and *democratic negotiation*, and *creation and sharing* of knowledge and digital resources.

2.3 Collaborative Dialogic Democratic Meta-Learning

In a dialogic perspective, “dialogue” is understood *as a way of knowing*; in other words, as a kind of epistemology [12]. This implies that there are no fixed meanings that can be obtained or learned, as meaning is situated in a dialogic context. A dialogic context always appears open to potentially new re-assessing views and comments. With reference to the insight of Bakhtin (1986), Wegerif [12] concludes that there is neither a first nor a last word. And there are no limits at all to the dialogic context, as it extends retrospectively into the “boundless past” and ahead into the “boundless future” [13].

Wegerif [12], [13] adds a final affordance to the pedagogic vision about digital technology relevant to this study. Pointing to digital networks, Wegerif emphasizes their potential for building digital learning contexts that promote fundamental democratic, dialogic skills and empowering educational attitudes, such as e.g. an urge to listen to other “voices” in other dialogues than ones own. The ability to relate dialogically becomes a needed competence in an intercultural, globally oriented world.

The hypothesis of the authors is that there exists an un-explored and not yet utilized space for higher-level-learning, especially concerned with learner attitudes (Fig. 1) in virtual learning environments. In the voice of Bateson [14] and assuming the different communicative “walls” of the digital learning space, it clearly follows that we are facing a virtual potential for inclusive-learning-for-collaborative-awareness (meta-reflection). Thus, we need a learning architecture (a model) promoting valuable inclusive meta (reflective) space, like e.g. the model of Sorensen and Takle [15], refined further by Sorensen & Ó Murchu [16]:

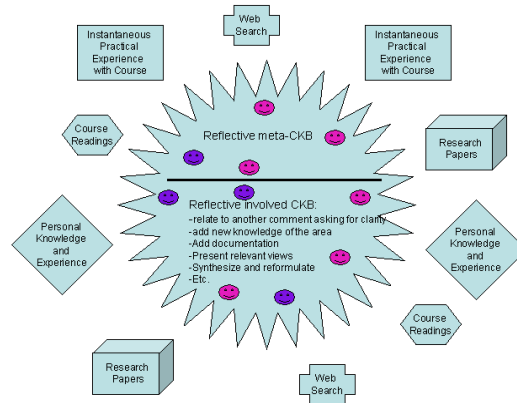


Fig. 1. Learning and collaborative knowledge building through online digital dialogue. Involved interaction (learners-learners and teachers-learners), and reflective meta-interaction (teacher-learners and learners-learners) [16].

The framework assumes that participatory resources enter dynamically from outside the formal learning space (i.e. knowledge and references from the participants as well as through the teacher). The framework denotes a digital dialogic inclusive collaborative knowledge building process, constructed by participants.

3 The Online Master Module

The entire Master's program is a part-time master study for professionals, with a value of 60 ECTS extended over two years. The module in question weighs 5 ECTS, and it is the initial module of the entire program. The topic of the module is concerned with learning how to utilize digital technology in design of digital teaching and learning. The module (as it is the case with the entire program) uses a VLE as the main learning environment. The asynchronous online study process was interrupted twice by a two-day f2f-seminar.

The 29 students attended the explored module have different backgrounds. A part comes from all levels of education, a few come with a background in business. The students come from all over Denmark, a few from Norway, and a few from Faroe Islands and Greenland.

3.1 Participants

The goal of the design of the specific first module was to establish an including dialogic continuous collaborative learning process, in which the students were exposed to a digital dialogic democratic blended learning architecture [7] as a laboratory and method for collaboratively generating new knowledge about designing teaching and learning with digital technology.

The learning process was intended to unfold, partly asynchronously through Moodle as the virtual learning environment (VLE), and partly interrupted by four physical f2f-seminars (2 seminars per semester). While the asynchronous online environment was used as a collaborative discussion and knowledge building space, the f2f-seminars handled the more tangible issues of the learning process (e.g. workshops, and practical exercises with technology and software), where the students engaged in f2f-dialogue with their teachers and peers.

3.2 Roles as Catalyst for Dialogue

Over the last couple of decades it has been widely acknowledged that in a process of dialogic collaborative learning, the *establishment of interaction* is essential. This is regardless of which one of the various types of interpretation of the concept of collaborative learning is used [19], [20], [21], [22], [23], [24], [9]. Regardless of whether they use the parameter in their definition of learner perspective, of number of individuals, or of organizational methods - and regardless of whether they favour a general epistemological approach to learning that is socio-constructivist, socio-cultural, or shared-cognitive - they all emphasise the essential role of interaction in collaborative learning [24], [9].

Table 1. D-Roles: Dialogic roles in small online groups, to be used for the plenum debate.

Dialogue roles	Description
Presenter	The task linked to the role of the presenter is to write a contribution (in the advised plenum forum of the small group) presenting a, potentially controversial, topic/problem statement for discussion. The statement should have a rationale with references to the course/theme literature, to the presenter's experiences, and to learning theoretical positions. The contribution should be approximately 20-30 lines.
Opponent	The task linked to the role of the opponent is to challenge - qualified and with serious arguments and references to literature - the views in the statement of the presenter. In other words, the opponent should pose a contrasting view rhetorically in a way that fosters further dialogue and discussion. Note: When the debate has been kick-started and evolves continuously, the opponent should stop opposing as a principle - and, instead, participate genuinely according to his/her own views and convictions (i.e. take the role of commentator).
Moderator	The task of the moderator is to support and weave the discussion started by his/her small group. The moderator encourages comments and reactions in relation to the statement made by the small group presenter, and challenges "lurkers" to comment. The moderator also keeps the discussion on a fruitful track and weaves to create communicative cohesion between the comments of the evolving dialogue. Note: The moderator has the final responsibility for summarizing the debate elicited and posting this summary.
Commentator (all participants)	The task of a commentator is to comment generally on the ideas emerging from and presented by other participants, and to contribute in a qualified way to the collaborative knowledge building discussions. This role should be applied by each participant at all times in the plenum forum, so that each one contributes also to also the discussions lead by other groups.

The framework above on D-Roles (table 1) was implemented to stimulate both kick-start, the “knitting together” and the “raising of dialogic awareness” (meta-learning).

3.3 Assessment Framework

In order to ensure not only dialogicity and the establishment of interaction amongst participants in the period of debate, but also to in retrospect be able to assess the level of dialogicity and the individual participants’ dialogic behavior, the process-oriented assessment framework (PAA) was implemented first by Sorensen & Takle [15], later modified by Sorensen & ÓMurchú [16] (Table 2):

Table 2. Dialogue roles in small online groups, to be implemented in the plenum debate.

DIALOGIC REQUIREMENTS (per participant)	
Quantitative	submit at least 5 contributions, out of which 2 should be your own identifications, and 3 should be responses to your peers
Qualitative	contributions that ask for clarity; contributions that oppose; contributions adding new knowledge to the discussion; contributions of relevance; contributions that build on logical argumentation in relation to others; contributions that sum up and synthesize and take a new point of direction; etc. (open-ended list)

The framework was used, both *prescriptively* for scaffolding the dialogic process and later, as a set of criteria, *for the purpose of assessment of dialogicity and inclusiveness*.

4 Research Design and Methodology

The overall research approach in the current study is inspired by Netnography¹, a research approach applied to understanding dialogue and interaction in digital communication contexts. In this approach the data are produced through online interactions [23], [24].

In addition, the authors are attracted to the idea of Appreciative Enquiry (AI), which we see as a way of moving our thinking forward a positive premise, while focusing at generating NEW knowledge and insights and discover other inclusive strategies and techniques. Also elements from Content Analysis have been applied with this intention. Ultimately, we wished to remain focused on a sustainable meta-learning process of Learning2Learn. As emphasized by Wegerif [12]:

¹ Netnography uses these conversations as data. It is an interpretive research method that adapts the traditional, in-person participant observation techniques of anthropology to the study of interactions and experiences manifesting through digital communications [24].

It implies that we must not be content with teaching the facts or knowledge as we see them, these will soon be out of date, instead we need to teach students how to engage in the dialogues through which knowledge is constantly being constructed, deconstructed and reconstructed [12:60]

The social-constructivist point of departure acknowledges that reality is created in social relations through communication and assignment of meaning [25:43-47]. The underlying suspicion is that we might have exhausted traditional problem solving, and that “appreciative enquiry” is a more effective way of a transforming investigations, which are able to inspire, mobilize and induce change in creative and innovative ways [26], [27], [28]. As stated by Cooperrider [25] the future may ask for methods, which confirms, convinces and accelerates predicted learning based on a higher degree of community [25:31] – and a higher degree of including attitude, we may add.

The attitude of an AI approach appears attractive in a perspective of *inclusion* – and *dialogicity*. Thus, the authors of this study attempt to identify signs of inclusiveness and dialogic behavior in digital student dialogue. We look for a tendency for students to become more inclusive in their collaborative process and to build on and invite participation and the meanings/views of other learners into the collaborative knowledge building process in their shared endeavor of seeking NEW knowledge in an inclusive collaborative atmosphere. Thus, such analysis is positively concerned with *signs of inclusive and democratic attitudes* (i.e. listening to and incorporating the opinions of fellow students, and it asks perspectives/questions, such as 1) can we identify an attitude of dialogicity, and, if so, 2) how is an inclusive attitude expressed?

After the delivery of the module, it was evaluated orally at a f2f seminar with the students. The students were asked about their experience in three categories: 1) pros, 2) cons, and 3) constructive comment for future iterations of the module.

The participants were asked, when they signed up for the program, to accept that the data generated in their study would potentially be used for research purposes - of course, with the usual respect, rules and requirements in terms of anonymity of the scientific society.

5 Findings and Discussion

The digital technology acted, not only as a medium for the module delivery process, but also, it constructed a practical collaborative learning experience for the participants. Essentially, the module unfolded in the intersection between dialogic interaction between peers on both theory and practice – and, in addition, also unfolded at a meta-level, as meta-reflections on module interactions (meta-learning). Small groups (4 participants) distributed communicative roles and presented an identified problem/question/wondering.

The various small groups presented in three **plenum fora**, and the groups themselves moderated the succeeding discussions on three topics: (1) *Theory and ict-supported practice*; (2) *The reflective learning potential of ict*; (3) *Quality, Inclusion and Digital Education*. Two **meta-fora** were offered: (a) *About the module*; (b)

“*Online dialogue as method in collaboration and learning*”. Participants were asked to prepare in the small online groups, on the basis of recommended readings and distributed group roles, involving also an initial 1-2 weeks of in depth individual reading, raising questions/wonderings for a process of *plenum debate with peers* and teachers. The group roles were applied to the discussion, and the dialogic endeavor had started.

The *teachers* were present in the two meta-fora with the function of 1) supporting the meta-learning around the method (online dialogue as a method for collaboration and learning), and 2) being present for Q’s about the module. The teacher was only allowed to comment in the three topical fora with an attitude of “equal participant” (to avoid “authority-style” and to not disturb the process and feeling of empowerment and ownership amongst the individual participants).

The **META-forum “Dialogue ABOUT the module”** produced **109 contributions**. The nature of them were e.g. questions, answers, information-passing, etc. The **META-forum “Online dialogue as method ...”** produced **98 contributions** that illustrate the motivating and including attitude and effect of relations and the motivations hidden in a dialogic learning process²:

Topic: Half-way reflections in module 1

It has been hard to related to Moodle, there are so many threads. I have lost the overview. When you want to go back to something in a thread, it is difficult to remember where it is. Unfortunately, I have had a tendency to lurk to much and then when I did want to write a contribution, I was overtaken by someone else. E., at a point in time, urged us to write, saying that everybody’s opinion counted, but I lost my breath with all the long contributions. It seems so pointless to write that I agree with A and B...But, in contrast, **it has been extremely motivating to read all the exiting contributions and it has caused me to reflect a lot.** It is exiting to read all the different perceptions and I feel that I have come to know quite a few peers. It is a good replacement for not often meeting f2f in the module....I have had to re-think my way of participating. My Moodle is now on my mobile....learning and participating as I go along.

Topic: Overwhelmed...information overload

“So much has happened within the last week. From using many hours considering how one best express one-self, and how one should navigate in the enormous amount of contributions/views...to becoming so occupied with them that I (almost) forgot that it was a part of a study program... To be asked to use theories to argue for positions and attitudes in practice in daily life has been enormously productive/giving, because you exactly need to relate yourself to something – and not just learn it by heart. What a pity it is, that there is not more time and space for this type of thing in the common daily life of a teacher...The more I know, the more I realize what I do not yet know, and this module has given me courage and appetite to explore and to wonder about what I have not yet learned....”

The **FIRST plenum forum, “Theory and ict supported practice”**, hosted 3 small groups and generated 56 contributions. The contribution below is an example that mirror an (embracing) including, inviting comment from a participant, asking with an interested attitude, if others have similar thoughts on the matter:

Topic: Digital Natives....

“Digital natives” and “Digital immigrants” (“On The Horizon”, Prensky m. (2001 a). This will in my view result in big challenges for everyone in the near future. (...) I was so lucky in my previous work place to

² Text in bold in the contributions from participants indicates a selection of the authors, and it is also the authors who are responsible for the translation of the contributions from Danish to English.

obtain permission to participate in a pilot project concerned with the recording of teaching...**Is there someone amongst you, who feel a resistance towards recording of teaching with the students? (I believe it is a question of accepting the conditions of the surroundings, where everyone records random things**We – the group of educators – must go through the same kind of continuous educations as our students, as it-tools continue to provide with new possibilities, which we at the current point in time are not able to relate to.

The **SECOND plenum forum “The reflective learning potential in digital network”** hosted 3 small groups and generated 42 contributions. A contribution that mirrors an including dialogic attitude asking peers to share knowledge and insights:

Topic: Which pedagogical criteria should be fulfilled in order for children to become motivated to participate in learning in digital networks?

In another thread it is discussed which pedagogic criteria it takes to motivate adults to participate in digital teaching/learning processes. In my view, it cannot be the same as those relevant to kids. **Therefore, I would like to hear your opinions on what it takes to motivate kids?** ... There are six points (Knowles), which look at the motivation of adults.....The question is, how do we make learning motivating to kids, if there is no immediate need for learning. The Danish Institute of Evaluation (EVA) has investigated (<http://www.eva.dk/projekter/2013/undervisning-pa-mellemtrinnet/notat-det-siger-forskningen-om-god-undervisning-i-skolen/notat-det-siger-forskningen-om-god-undervisning-i-skolen>) this. They concluded with the following points: 1) the teacher creates a positive climate in the class, which then is positively focused on learning, 2) the teacher constructs the goal for the kids, 3) the teacher works with evaluation and feedback in teaching, 4) the teacher includes the kids, 5) the teacher teaches with variation....**Now, how do YOU think that these points can be implemented in a digital teaching environment?**

The **THIRD plenum forum “Quality, inclusion and digital education”** hosted 4 small groups and generated 91 contributions. Below is an example of a contribution that mirrors an including attitude in terms of collecting a mandate for the overall view.

Topic: Digital education (“Bildung”) and sociale media

This week Politiken has published two articles “Robotics guides your news” about young peoples’ use of social media as their most important news channels... (...) **When I point to this article, it is because I think an interesting discussion should be taken around the responsibility of the educational institutions**, when it comes to digital education and social media...and the imprint on young peoples’ learning? Is there reason for being worried?...In “Digital Dannelse” Lotte Nyboe writes that (...) young people in this culture are not only “audience”, but also “users” and “consumers” ... (Nyboe, 2009, p. 51). To move around reflectively and critically in this media culture must require a high degree of “digital literacy”, or what Nyboe names “media literacy” (Nyboe, 2009, p.93)... Does the articles critic also imply a critic of the users’ relationship to social media? **And how should we as educators act in relation to the socialization of young people that takes place through social media?....**What do you think??

Borre, M. & Vuorela, M. (24. September 2014). Robotter styrer din nyhedsstrøm. Politiken: <http://politiken.dk/kultur/medier/ECE2405754/robotter-styrer-din-nyhedsstroem/>
Vuorela, M (25. September 2014). Denne artikel vil ryste dig for altid.
Politiken: <http://politiken.dk/magasinet/feature/ECE2406191/denne-artikel-vil-ryste-dig-for-altid/>
Nyboe, L. (2009). Digital Dannelse. København: Frydenlund.

The evaluating comments from the participants illustrated the initial frustration. Nevertheless, in general, the course had been perceived as a positive experience. Some participants initially found it to be a stressing experience due to the large amount of comments and difficulties in maintaining an overview, but others expressed the contrasting view that it had been an exiting and stimulating experience

to be engaged in and sharing an explosion of dynamic CKB. A smaller part of the participants expressed some frustration that the course did not have the more traditional roles of a teacher and a student.

Inclusive and *democratic attitudes* were looked for in the knowledge building tapestries that were generated during the module. From the netnographic point of view of the authors, the tapestries mirrored high interaction between participants. Peers made use of (i.e. listened to) each other's views and took further departure from the new insight. This process seems to have created ownership in participants. In the dialogic tapestries the signs and indicators of *inclusive* and *democratic attitudes* were quite clear in most comments. On the basis of the contributions of participants, it was as if the social "intentionality" (dialogicity) was practiced and created stronger relations amongst participants and illustrated a dialogic urge, an social attitude in the string of dialogues, and a wish to engage in knowledge building with peers for NEW knowledge building [29]. We may say that most participants contributed to what we call "the glue" in the dialog. Many of the comments mirror how the author reaches out to peers in order to learn more. They provided new view, relating to those of peers, and they themselves found relevant references to add to the conversation. In other words, learner ownership and empowerment flourished.

6 Conclusion

This study has explored the dialogic design and character of a professional online Master's module on the overall question of how to implement digital technology in learning processes. The overall research approach in the current study was inspired by Netnography in an attempt to capture the motivating and inspiring potential of social dialogic interaction in a dialogic approach to design learning and meta-learning in a digital communication contexts. The exploration was carried out in a flavor of Appreciative Enquiry and incorporate elements of content analysis.

Spawning an inclusive learning process of good dialogic quality and a flat social learning endeavour amongst participants, it seems fair to conclude that the learning design had identified and implemented important elements in the learning design. The design produced a process of good dialogic learning quality and a socially including learning endeavour that made room for learner empowerment and ownership to develop. While the experience was blessed with a lot of dialogic "glue", it also carried a subtle promise and perhaps tentative suggestion that the path of inclusiveness and meta-learning, as conceptualized in this paper, is a fruitful direction for further studies in the cultivation of inclusive democratic skills and attitudes in digital teaching and learning programs for adults.

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