

Important Parameters in Interdisciplinary Designing for Learning

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Abstract

Learning design has many approaches which on one hand can be very instructive or on the other hand can be more of a collaborative process. This article takes the collaborative approach and look into the factors collaboration and communication from an interdisciplinary approach to learning design. It is found that two of the most important factors when designing for learning in a interdisciplinary and collaborative design approach is communication (dialogue, conversation, or negation of meaning). The article also touches upon the action learning approach as a way of thinking the learning design methodology, because it is important to use the collaborative approach as a learning process where the participants act upon their ideas and in a iterative process redesign and rethink the learning design. The article is based on experiences from several projects, where this collaborative learning design approach has been tried out, and latest in an interdisciplinary case study.

Keywords: *Learning design, action learning, dialogue, collaboration, interdisciplinarity, communication,*

1. Introduction

In a Design for Learning approach (Buus, 2015), there is a need for the participants to be collaborative and creative in the design process, but it can be a challenge to facilitate this kind of processes and activities. To effectively meet this challenge requires more rigor than required by individual designs because it has to meet the usual rigor in design plus 1) the rigor of being effective collaboratively with the group of participants and 2) to effectively add group creativity techniques (e.g. synectics) to individual creativity techniques. It is important to notice that the more objectives and/or the more restrictions (or rules) to be met in the design, the more rigorous is the required thinking.

Furthermore, to adequately manage a collaborative and creative process, it demands knowledge in ways to handle interdisciplinarity, dialogue and conversations based on diverse interests, and the ability to establish a shared language among participants. To enrich the learning design output and the learning design process, participants will be

invited from different domains like educators, developers, technology people, and if possible management. All of them invited to design for learning in an interdisciplinary setting. This interdisciplinary diversity in participants enhance and enrich the learning design using negotiation of meaning (Wenger, 1998), collaboration (Georgsen & Nyvang, 2007), and creative design processes (Conole, Galley, & Culver, 2011). An interesting approach would be to unfold the way in which these three parameters (collaboration, communication, and interdisciplinarity) affect the learning design process. This will be based on one of the case studies described in “Designing for Learning in an Interdisciplinary Education Context” by Buus et al. (2019), but also on the several projects in which the author has been involved and integrated this collaborative learning design methodology. Taking these perspectives into account, when dealing with learning design, it can also be seen in parallel to the characteristics of interdisciplinary communication, as Callaos and Horne (2013, s. 28) describes them. All of these require even more rigor in thinking and doing, because there are more objective to meet and potentially more restriction to frame the design process.

2. Design for learning or learning design

Learning design can be defined methodological as an approach enabling educators to include learning activities and interventions on a more informed basis around e.g. pedagogical and efficient use and combination of appropriate resources, activities and technologies. It could be said that one of the key principle for design for learning is that the method makes the design process more explicit, transparent, and shareable (Buus & Georgsen, 2018; Conole, 2013). Mor and Craft (2012) brings this into perspective by adding that learning design supports a creative process based on the design of new or different practices, which therefore means that when designing for learning it is important that there is a creative space to unfold innovative pedagogical ideas, and the possibility to create a learning process for the educators, which is facilitated through different parameters and methods.

Conole (2013) makes it clear that learning design is about facilitating the process, and bringing the participants from thinking on single aspect into a holistic way of looking at the design (as illustrated in figure 1). This is in the collaborative and interdisciplinary approach becoming more essential because the facilitation and the way to accommodate the parameters (collaboration, communication and

interdiscilinarly) will be the key to whether the learning design process succeed or fail.

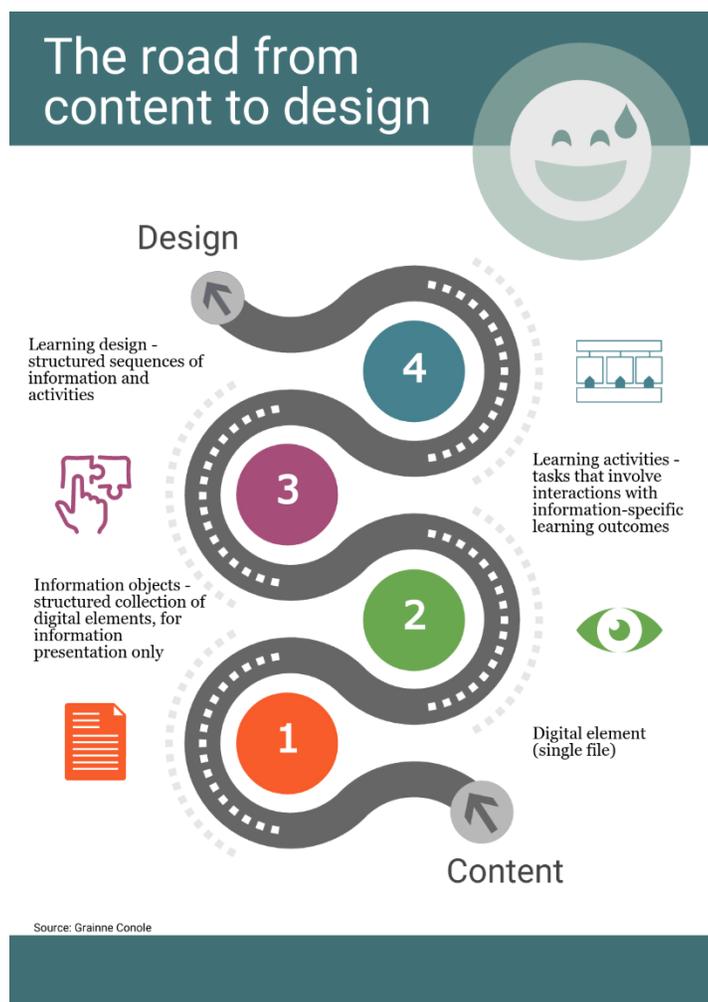


Figure 1: Illustrating the path in a learning design process from content to design. (Source: Grainne Conole – moderated by author)

Without going into details about ways in which this could be done in respect to the various approached to learning design (Conole et al., 2008; Laurillard, 2001; Mor & Craft, 2012) , then the authors brings into action learning, as her approach to bring success in the learning design process.

3. Action learning as an approach to facilitate learning design

Facilitating this kind of collaborative processes can be underpinned by an action-learning approach, which will generate iterations based on the dialog and feedback from the participants and users. This approach also underpins the need for rigor interdisciplinary communication in design processes.

A way to see this is illustrated in figure 1, as a possibility to have loops and iterations in the learning design process.

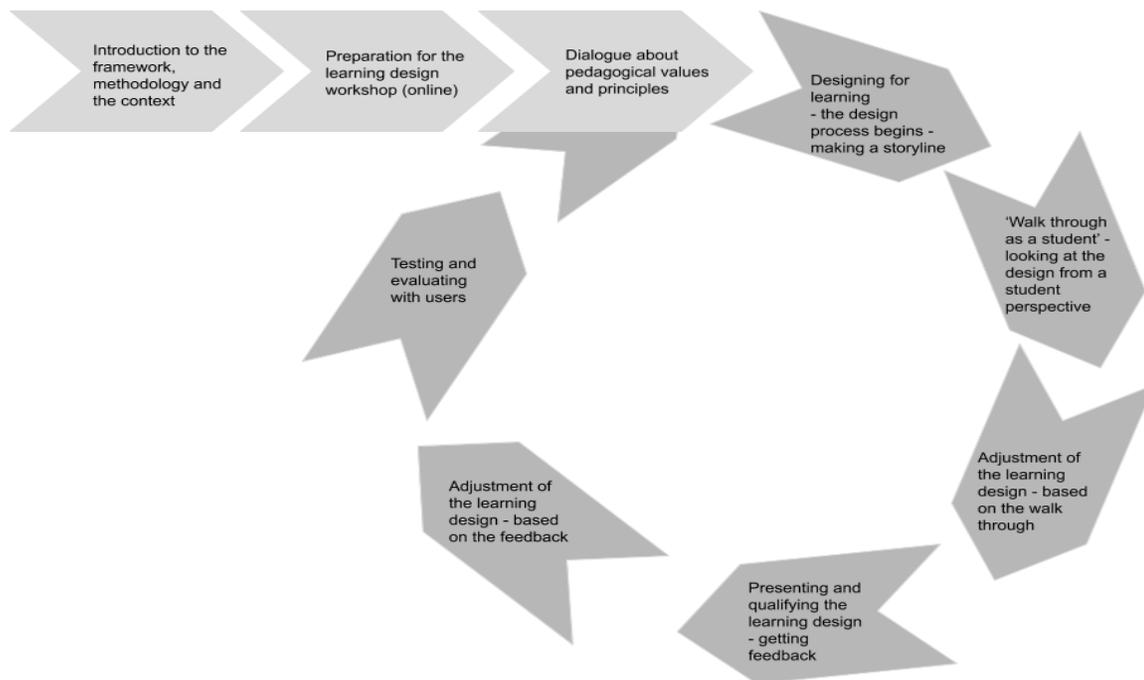


Figure 2: Illustrating a learning design process as an action learning approach.

Action learning can be considered as reflected learning in professional communities (action sets), committed over time, with voluntary participation. To gain valid contributions in the design for learning is real-life-time actions in relation to one's own practice beneficial. Learning then becomes mediated by a framed learning process characterized by a coherent path with introduction, study and reflection (Conole, 2007; Madsen, 2013). In the action learning process and accordingly in the learning design process, it will be essential to have dialogue and feedback to be able to handle and adjust to the developed learning design. Therefore, it becomes important to facilitate

collaboration and the interdisciplinarity to enrich the output of the learning design process. What can be added is that any individual thinking requires internal communication, group thinking requires external communication, which therefore has more restrictions, e.g., a need to negotiate meaning (Wenger, 1998), build on a shared language. Interdisciplinary communication adds more restrictions and the required learning process adds more objectives. Consequently, interdisciplinary communication oriented to collaborative and creative design adds both: restrictions/rules and objectives-to-be-met than the design made by an individual according a given discipline. Since the disciplinary requirements and standards have also to be met, then it is evident that interdisciplinary communication in the context of collaborative and creative design requires more rigorous internal and external thinking as well as more effective doing than just intradisciplinary rigorous research. The latter is a necessary condition, but it is not sufficient any more in interdisciplinary communication, let alone for interdisciplinary communication for collaborative and creative design.

4. Facilitating communication, collaboration, and interdisciplinarity

Bringing together people from different domains to collaboratively be creative and communicative to solve the challenge of designing for learning it becomes essential important to find ways to facilitate - or you could say scaffold – the negotiation, dialogue and creativity in the learning design process. From a learning perspective it is important to bring a pedagogical and technological skilled learning designer, who are able to establish a common space for the communication, collaboration and creativity to take place.

The importance in this is the fact that from a strategic point it is often seen that management is not represented as part of the process, which means that it becomes the educators that dominates the process together with the developers and technologist. To embrace the interdisciplinarity has become important for the learning designer to have a focus on this and to navigate in the facilitation process. Furthermore the learning design will become a holistic perspective to learning which the educator will need to transform to the learners within his or her domain, and therefore the educator will need to scaffold the learner in his or her learning process.

The figure 2 below illustrates the process of scaffolding both the educator by the learning designer during the learning design process and that of the educator scaffolding the learner in the learning process.

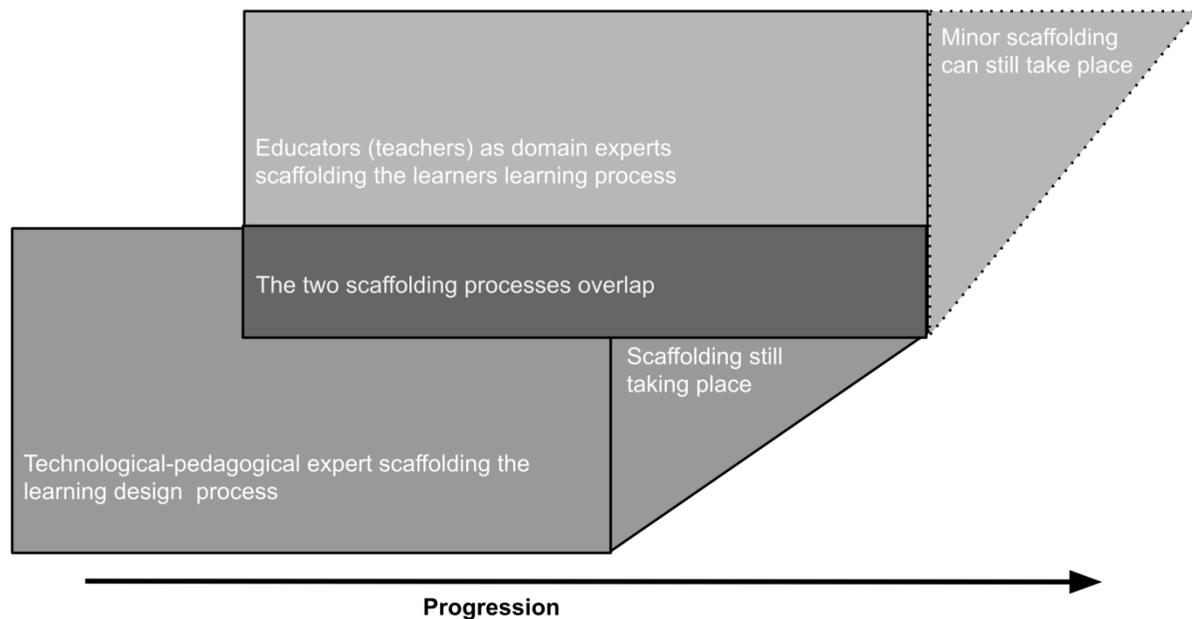


Figure 3: Illustrating a scaffolding model (Buus, 2015)

Taking a look at creativity, learning and construction of knowledge (constructivism) it is located in the connections and interactions between learners and educators, but also in the connections to resources. It is seen emerging from critical dialogues, collaborative processes and enquiries based on curiosity. Ways to bring this forward when facilitating the learning design process is by using a collaborative learning design model (Georgsen and Nyvang, 2007; Buus, 2015), which can subsidize this. This has been the approach on one of the case studies presented in “Designing for Learning in an Interdisciplinary Education Context” by Buus et al. (2019), which this article also builds on.

The original method has evolved over time to be more flexible, trying to follow the learning design process all the way to the operational level, and back up the collaboration process beyond the workshops. It has been incorporated into different domains and as main approach on organizational levels. But basically the collaborative

learning design method provides a set of guidelines for conducting collaborative design workshops for producing digital learning designs within different educational activities (e.g., modules, courses, minor learning activities, etc.). The method allows for different levels of details during the design workshop and as part of the final design. These levels of details are based on iterations, but also a learning oriented approach to designing for learning. Therefore, it becomes even more important for the facilitating learning designed to bring focus on collaboration and dialogue, and as mentioned in the introduction to have focus on the more rigorous required thinking, when restrictions (e.g., curricula or economy) meets the design.

The method, likewise draws on Wenger's social theory of learning and based on his approach to social learning, one of the core processes in learning is negotiation of meaning as an important factor for social practices and development. Based on the approach Wenger (1998) adds to social theory, negotiation is defined as a process of participation and reification, which both are important aspects in collaboration, dialogue and conversations.

Social skills and interactivity, and the involvement of users and their participation is important in Wenger's (1998) perspective on learning in communities of practice. It could be one way of seeing the interdisciplinarity in bringing various types of participants from different domains together to develop a common design for learning, and bring their different skills and competences into play. It brings in concepts such as the negotiation of meaning, collaboration, user participation and problem-based learning are the focus when talking about user involvement and creative and collaborative learning processes, together with social participation (Lave & Wenger, 1991; Wenger, 1998).

When looking at the learning design process from the social learning approach, design for learning in an organizational setting brings out communicative participation and ways to develop tangible outcomes, which furthermore builds on the strengths of interdisciplinarity. As already mentioned an important part of the collaborative learning design method is the negotiation and collaboration on establishing and further develop a shared pedagogical (and operational) vision among the participants, and being able to discuss different pedagogical and sustainable values and to make a common representation of a holistic learning design in a kind of flexible, but yet structured manner.

5. Conclusion

Based on research done in several projects and later in the case study presented in the article by Buus et al. (2019), this article discusses collaboration and communication as the most important factors in interdisciplinary design for learning, where domain specialists are brought together.

An area of focus for how to do research within learning design and the practice around it, concerning interdisciplinarity and collaborative learning processes could be to further investigate the potentials in learning design as a digital teaching development methodology from the here mentioned perspective; collaboration, communication and interdisciplinarity, including whether it can create more creativity, critically reflected participants and more effective teaching with technology integrated. It also seems important to investigate whether some practices are more suitable for taking in collaborative learning design as an approach than others in e.g. the Danish context.

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