

Individual Development and Collective Change: A Dynamic Approach to University Teacher Training.

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Abstract: University teacher training is often centered around extensive courses and seminars, and may have limited impact on improving teaching practice. We suggest this may be due to faculty perceiving what is being taught as not immediately relevant for solving concrete, practical challenges they face in their everyday practice. Further, lasting change in teaching practice requires a collective effort. We are developing a new approach to teacher training combining individual just-in-time microlearning and group-based problem solving. This is based on the ASSURE-model of instructional design and comprises an online learning resource and made-to-order workshops. The online resource is aimed chiefly at individual teachers. The purpose is to help solve specific problems related to the various phases of the instructional design process, and provide inspiration for improving teaching practice. The resource presents a graphic overview of the instructional design process, where each component contains a collection learning units with need-to-know resources relevant to a particular area. In order to thrive, individual development is dependent on a supportive environment. Addressing academic development on a departmental level, the workshops are based on a dynamic, collaborative model where we work with groups of staff in identifying and framing teaching challenges, and prototyping and testing possible solutions to these challenges.

Background

Within academic development, formal learning provisions for university teachers are typically organized in the form of activities such as courses, programs, and seminars. Research suggests that the impact this format has on teaching practice and subsequent student learning is variable and difficult to determine (Ginns, Kitay & Prosser, 2010; Othman & bin Dahari, 2011). A typical scenario is the individual teacher, who attends a seminar, develops new initiatives and ideas on how to improve practice on the basis of what they have learned, but fails to implement changes when they return to their day-to-day practice. Depending on your perspective, there may be several reasons or explanations for this. On a socio-cultural level, it may be viewed as a symptom of the absence of a supportive departmental culture (Roxå & Mårtensson, 2015), or a poor fit with existing disciplinary traditions and priorities (De Rijdt, Stes, van der Vleuten & Dochy, 2013). On an individual level, it may be a consequence of factors such as the individual's level of experience, position, and motivation (Stewart, 2014). These explanations assume that the topics covered in the provisions are relevant to the individual teacher's practice and match their desired goals and educational needs.

The perceived relevance of university teacher training activities is key in determining whether the learning that takes place within such training is transferred into practice (De Rijdt et al. 2013). Learning provisions are often generic or designed and built around what we as academic developers consider as appropriate and effective when it comes to teaching and learning. While our practice is informed by research and experience, we have little knowledge about specific departmental cultures, practices and priorities, or individual teachers' everyday working life. In other words, we know little about the relevance of the topics covered in our courses and seminars, to what extent they answer the training needs of our participants, and ultimately whether what we offer contributes to sustainable development and change in teaching practices within the various departments.

What we *do* know is that academic teaching is a complex undertaking that requires planning in several areas and on several levels, and solving problems of varying degrees of magnitude. Some teaching tasks are of a specific and immediate nature, such as marking assessments or choosing and planning learning activities for a particular lecture. Others are more extensive, in terms of both time and scope, such as planning and coordinating modules or courses. Furthermore, while some tasks belong to the individual domain, others require collaboration with other staff and members of faculty. Because of this complexity, the teachers' training needs range from getting help to solve specific problems or generate ideas for use in their day-to-day practice, to problem solving, planning and development on a large scaler involving several stakeholders.

While traditional teacher training addresses these issues on a general level, fulfilling the training needs and ensuring contextual relevance for individual teachers as well as groups and departments through pre-planned courses or seminars is difficult. To address this problem, we suggest a more integrated, dynamic approach to university teacher training where we address “the big and the small” separately using different methods and modes of delivery.

Current Approach

We are currently in the process of building a dynamic provision for teacher training that takes into account both individual and collective academic development needs. The basis of our work is instructional design as conceptualized in the ASSURE-model (Kurt, 2015). The model serves as a framework and point of reference for the two main components of our approach: just-in-time microlearning and group-based collaborative workshops. Figure 1 provides a schematic overview of the learning provision.

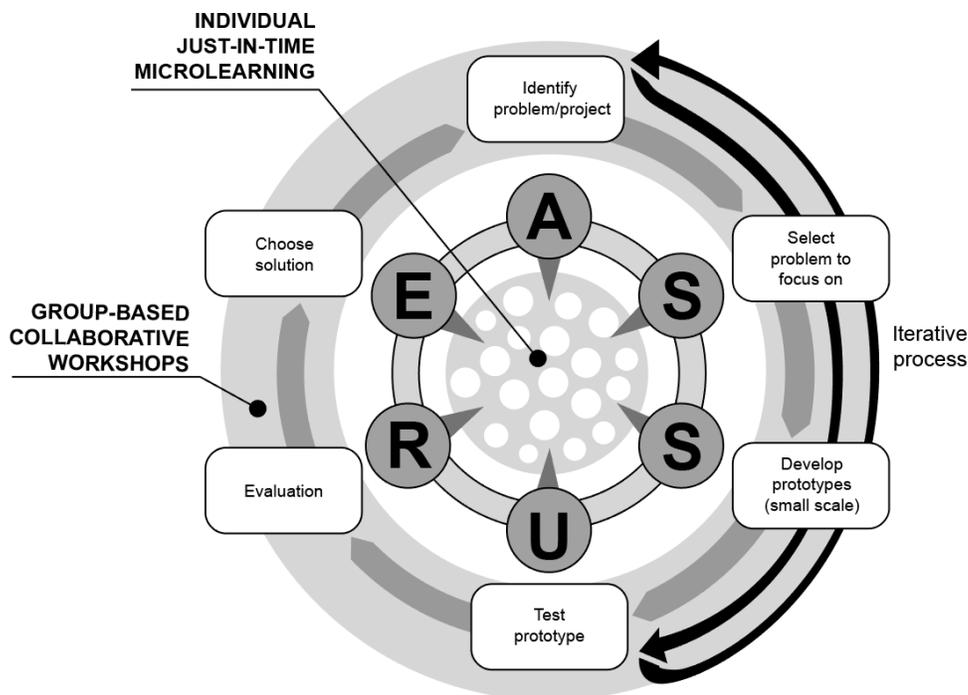


Figure 1. Overview of learning provision.

The ASSURE-model

Instructional design is a term commonly used for systematic planning and implementation of educational programs and activities. Over the years, researchers and practitioners have developed several models of instructional design. Though these models differ somewhat in terms of structure and emphases, the intention is that they serve as a framework and/or reference in the development of courses and lessons (Seel, Lehmann, Blumschein & Podolskiy,

2017). We have chosen the ASSURE-model as the foundation for our work as, in our view; it has the closest affinity with the characteristics of the planning processes in Norwegian higher education teaching.

The ASSURE-model divides the instructional design process into six phases: 1) Analyze learners, 2) State objectives, 3) Select media and materials, 4) Utilize media and materials, 5) Require learner participation, and 6) Evaluate and revise (Heinich, Molenda, Russell & Smaldino, 1999). In our view, the model may also represent a *network*, with the six phases representing interconnecting nodes. As such, the model can be treated as non-sequential and fluid, making the planning process a natural flow of feedback loops.

Individual just-in-time microlearning

In their day-to-day work, university teachers often face concrete and practical challenges that need resolving straight away, such as solving a particular teaching-related problem, or ideas and help with instructional methods or technologies they would like to apply in the classroom. Rather than signing up a lengthy course, these situations call for a targeted and instant injection of knowledge.

Addressing such immediate learning needs, we have developed an online resource providing teachers with opportunities for *just-in-time microlearning*. The resource, which we have called *uDig*, gives teachers access relevant resources on teaching and learning at their convenience. Although the literature offers no single definition of microlearning, most emphasize that the concept refers to small learning units with just the necessary amount of information to help learners achieve a goal, such as closing a particular skill or knowledge gap. Microlearning units should be low effort, fast, easy, quick to apply and useful (Jimenez, 2006). The *uDig* units contain examples and short tutorials in the form of video, audio or text, as well as links to relevant external resources.

Although the learning units are brief and to-the-point, it is important that teachers are aware of how the skills and knowledge of each unit relates to the learning design process as a whole. With this in mind, *uDig* is structured around the ASSURE-model. All tasks, skills or challenges covered in the different units are linked to the different phases of instructional design. These relationships are made explicit by means of an interactive infographic, which serves as an entry point, map, and organizing tool for the *uDig* resource as a whole. The infographic lets the learner see how the contents of a given microlearning unit map onto the ASSURE-model. This way of mapping the units also helps learners become aware of the network characteristics of instructional design, showing how activity or changes to one area may affect other areas connected to it, and ultimately cause changes to the quality of the learning design as a whole. An example here could be how making adjustments to the learning objectives would trigger adjustments to assessment methods, learning activities, materials and so forth.

Group-based Collaborative Workshops

Sustainable development and change in teaching practices within an academic department rarely comes about through the efforts of individual teachers alone. As research has suggested (De Rijdt et al., 2013; Roxå & Mårtensson, 2015), enthusiasm and noble intentions can quickly be quashed by traditions, culture and priorities inherent in a discipline or department. To address this, we developed a workshop model aimed at groups of teachers working within a department or team. In the initial phase, we designed a series of workshops available for groups to book based on their particular needs. The workshops focused on specific applied topics, such as flipped classroom, and assessment methods. Our assumption was that when the learning that had taken place in a collaborative environment, it would transfer more readily into practice; thus circumventing the problem with the “lone teacher efforts”. We assumed incorrectly. Evaluations showed that while some groups reported having implemented some of the things they had learned and discussed in the workshops, overall, our efforts had effected little change in practice.

Although the groups had booked the workshops based on what topics they considered useful or necessary, there is still the question of *relevance* (De Rijdt et al. 2013). A premise for the success of a workshop is that it addresses a need; in other words, that it solves a problem that needs solving. Identifying the correct problem or need requires some form of explorative or diagnostic process. Based on this notion we are now redefining our workshops. Rather than providing solutions to perceived problems, we are turning the concept upside-down: before engaging in any problem solving or training activities, we work collaboratively with the groups in identifying and framing their problems. We use the ASSURE-model as a starting point, as it helps the group locate the general area to which the potential problem may belong.

This is a creative process based on the structure and ideas of design thinking (Jackson & Buining, 2010). The idea of design thinking revolves around approaching complex problems by focusing on the target audience and their needs. In our context, this implies the teachers focusing on the students' needs, and identifying needs or problems in their practice relative to the students. Failing to analyze carefully what is going on in their student groups, may cause teachers to arrive at the wrong conclusions in terms of identifying the underlying problem. An example may be a situation where the teacher observes that the students are turning up unprepared for a flipped classroom session. The teacher may then reach any number of conclusions as to what causes this; the quality of the out-of-class learning material, the students not being motivated enough, or failure in conveying her expectations to the students. The main objective of this stage in the process is *finding the right problem*, which then enables the group to be asking the right questions. Going back to the example, the question whether to redesign the learning material is only relevant if you have pinpointed that this is where the problem lies. The aim of the initial exploratory stage of the process is to enable the group to understand and unfold the complexities of the problem, and viewing it from different angles. There are several ways of going about this, however, one of the commonly used methods being brainstorming.

After having identified the potential problems, the group then goes through an iterative process of selecting the relevant problem, and developing and testing small-scale prototypes. These prototypes can take a number of forms, depending on the nature and scale of the problem. Often a simple pen-and-paper sketch serving as a focus for discussion and questioning can be sufficient. In other situations, the prototype may be a single lesson, or teaching activity. The different prototypes are compared and evaluated before the group arrives at a solution, which may then be implemented in practice.

Final notes

The approach outlined in the present paper is still a work in progress; however we are quite confident that we may be on the right track in terms of designing a set of learning provisions for university teachers that enables them to address the problems and challenges relevant to their practice, both individually and collectively. uDig, the just-in-time microlearning resource is continually updated and adjusted to fit the everyday needs of the teachers across our institution. The workshop provision is in its early stages, and still requires several rounds of testing and no doubt failing, before we decide on a suitable format.

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