# Studying the development of an online course on Curriculum: implications for the students' workload in light of the Bologna principles



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## Session Information

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## Contribution

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After having taught a course on Curriculum Theory and Development (CTD) via face-to-face instruction to undergraduate students of Basic Education for many years, in the academic years 2011/12 and 2012/13 I taught the same course via e-learning, at the University of the Azores (UA), Portugal. Considering that the full virtualization of a course is still a rare phenomenon at the UA, I decided to use Curriculum Design Research (CDR) to study the development of the above-mentioned online version of the course on CTD, which, from now on, will be designated as CTD-O.

CDR "is often initiated for complex, innovative tasks for which only very few validated principles are available to structure and support the design and development activities" (van den Akker, 2009, p. 45). When a new curricular challenge emerges and heuristics or "how to do" guidelines for dealing with it are hardly available, CDR may be useful as a methodology that is capable of generating design principles. It is not difficult to find guidelines for online course design in the literature. But it is not easy to find guidelines or descriptions of models that can be immediately adapted to the specific needs of the context wherein CTD-O was created. Indeed, the context is quite challenging, both because e-learning is at a very early stage of development within the UA and because there is not much literature on teaching CTD online. Accordingly, the project reported in this paper started with the following research question: what are the characteristics of an online course on CTD that meets the learning needs of undergraduate students of basic education at the UA?

I will describe and discuss the evaluation of prototypes 1 (2011/12) and 2 (2012/13) of CTD-O. Findings from this study have already been presented (Sousa, 2013), but some of them need a deeper discussion, especially findings that raise questions about the relationship between e-learning and one of the key-issues of the Bologna Process: the measurement, the organization and the distribution of the students' workload. Accordingly, I intend to discuss CTD-O in terms of its impact on the students' workload. Some research suggests that in some European countries students have perceived that the allocation of ECTS on the basis of an estimation of their workload hardly happens, whereas in other countries students have perceived that it happens to a large extent (Päll et al., 2012). Even if the overall allocation for each semester is accurate, more attention needs to be paid to the distribution of the workload across the semester, in order to avoid overloads in some weeks (Komenda & Malisa, 2010). Accordingly, one of the main principles that guided the design of CTD-O was balanced distribution of the students' workload across the semester. This kind of distribution is challenging, inasmuch as many Portuguese students are used to an academic tradition wherein their workload across the semester is uneven. They tend to be exposed to lectures most of the time and to formal assessment in two or three moments only. Therefore, their workload tends to be low most of the time and rise dramatically some days before the tests. CTD-O implied an even distribution of the students' workload and also continuous assessment across the semester. This strategy prevents procrastination, which is frequently pointed out as a shortcoming of asynchronous communication via e-learning (Graham, 2005), and ensures the provision of quick feedback, which is critical for the success of e-learning (Cabero, 2006). However, considering that this strategy challenged the students' habits, some data related to their perception of workload was collected and analyzed. Special attention will be paid to such data in this paper.

## Method

CDR usually follows a prototyping approach, whereby tentative versions of the product being developed are evaluated and revised in a systematic way through a combination of different kinds of evaluation criteria and different evaluation techniques. Accordingly, the quality of CTD-O has been evaluated in the light of validity, practicality and effectiveness criteria, through the application of some techniques that are common in CDR (Nieveen, 1997): micro-evaluation, screening, expert appraisal, and tryout. Evaluation of validity covers content validity, which is related to the scientific rigor of what is taught, and construction validity, which is related to the requirement that the product is designed in a logic and consistent way. Content validation has been pursued in two ways: firstly, through updates of the course syllabus, considering the state-of-the-art knowledge in the field of CTD; secondly, through expert appraisal, whereby a reputable scholar in the field of CTD has analyzed CTD-O and commented on its scientific rigor. Construction validation has been pursued mainly through expert appraisal, whereby the technological dimension of CTD-O has been evaluated by a prestigious scholar in the field of Educational Technology. The practicality of CTD-O, that is, the extent to which it is usable by the students, was firstly evaluated through micro-evaluation: tentative versions of some modules were tested before the whole course was virtualized. Later on, the students participated in the tryouts of prototypes 1 and 2, by responding to online questionnaires. Some of the questions addressed issues of practicality, including the easiness of online navigation within CTD-O and the management of the workload. More specifically, the students were asked how many hours per week they devoted CTD-O, and they were also asked to express their opinion on the even distribution of their workload across the semester. The effectiveness of CTD-O - that is, the extent to which it yields desired outcomes - has been evaluated through other questions from the questionnaire and also through the summative assessment of the students' learning. In addition, CTD-O has been evaluated through screening, which is a technique whereby the researchers "check the design with some checklists on important characteristics of components of the prototypical intervention" (Nieveen, 2009, p. 95). A synthesis of contributions from various sources, including texts on e-learning in general and texts that convey guidelines for online teaching of specific fields or topics (e.g., Edwards & Gordon, 2010), allowed for the design of a checklist that was used for screening CTD-O.

## Expected Outcomes

The 2011/12 class had 15 students, 14 of which responded to the questionnaire; the 2012/13 class had 9 students, all of which responded to the questionnaire. They evaluated the effectiveness of CTD-O favourably, considering that there was only one case – in 2011/12 – in which a student stated that she had learnt less from CTD-O than she would have learnt from face-to-face instruction. Furthermore, all the students from the 2011/12 class and eight out of nine students from the 2012/13 class stated that, if they could go back in time and decide how they wanted to take the course, they would take it online. The summative assessment of the students' learning reveals that the objectives of the course have been achieved at least at the same level as they had been when the course was taught via face-to-face instruction, which further supports the claim that CTD-O has been effective. The evaluation of CTD-O through expert appraisal and screening revealed improvements from prototype 1 to prototype 2, both in terms of technical aspects and variety of learning experiences for the students, thus contributing to its validity. The students evaluated the practicality of CTD-O favourably. They considered it well-organized and easy to interact with. However, 14 of them of them (60%) stated that their real workload was heavier than the official workload of the course. Furthermore, 16 students (70%) complained, through their answers to open-ended questions, that their workload was too heavy. Two students (9%) considered the weekly rhythm of CTD-O stressful, but eleven students (48%) praised it for its contribution to quality learning. These data can be interpreted as evidence of a slow and resistant adaptation to some principles of the Bologna process, whose implementation has been facilitated by the virtualization of the course.

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