



European Conference on Curriculum Studies

Future Directions: Uncertainty and Possibility

University of Minho - Braga, Portugal
October 18 and 19, 2013



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STUDENT TEACHERS NEED
MORE THAN EVIDENCE -
ARGUMENTS FOR THE PLACE
OF THEORY IN THE TEACHER
EDUCATION CURRICULUM

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Uncertainty and Possibility

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INTRODUCTION

The University of Minho is hosting the European Conference on Curriculum Studies, under the general theme "Future Directions: Uncertainty and Possibility" during October 2013 (18th and 19th). Euro-ACS is a research network on curriculum studies, not restricted to European scholars, but concerned directly with the state of the field of curriculum studies in Europe.

The association aims to contribute to the development of collaborative research efforts among scholars interested on Curriculum Studies and to promote curriculum research in Europe. In order to contribute to the advancement of curriculum studies in Europe, Euro-ACS organized the "European Conference on Curriculum Studies. Future Directions: Uncertainty and Possibility".

This conference focuses on theoretical and practical issues concerning education and training, by addressing traditional issues such as curriculum design and evaluation as well as more recent issues which have been emerging in the field of curriculum studies. Such recent issues include, but are not limited to, the social, political and economic contingencies of curriculum; contemporary analysis of curricular practices and discourses, and local and global dimensions of teaching and learning.

The goal of making the European Union the most competitive space in the world, based on knowledge economy, requires a deep debate on the role of Curriculum Studies for the production of new knowledge and its dissemination through teaching and training, for which ICT plays a fundamental role. Questioning Curriculum Studies and studying educational experiences in formal and non-formal contexts also involves different perspectives, such as those from multicultural education, cultural studies and critical theory.

This conference is held in the context of an information society in which the interface between the capacity to communicate and education sustains generalized questioning. We are aware, with Morin (2000), that the future's main vector of characterization is its uncertainty, which is also its main lever for opportunity. Thus, the European Conference on Curriculum Studies suggests deep reflections and debates around its subject: Future Directions: Uncertainty and Possibility, aiming to constitute a reference of

creative and critical promotion of the development of curriculum studies in the national and international contexts.

Nowadays, the world-culture benefits from close dialogues between theoretical perspectives on curriculum and their articulation with formal, informal and non-formal learning environments, considers learning is certainly working with others and an opportunity for inclusive working and responding to diversity. To include is to learn a sense of collective belonging, a way of organizing life and the environments we lead; it is a way of knowledge which implies a vision of society, of universalization and an active and democratic participation by all, in respect for diversity.

Within this complex scenario, and defying the socioeconomic frailty that shadows over Europe, the European Conference for Curriculum Studies proposes to revive some old tensions between curriculum theory, educational practice and curriculum policy, questioning the precariousness of globalized knowledge in an ever transitioning society, as an opportunity for answering present issues, while looking to the future.

Communications present theoretical discussions or research products concerning curricular policies and practices. All papers concern the following Conference Themes:

1. Curriculum and supranational policies
2. Curriculum and accountability
3. Higher education: curricular challenges
4. Curricular practices and discourses
5. Curriculum studies: theoretical and methodological perspectives
6. Curriculum: in between the social and the personal
7. Curriculum, internationalisation and cosmopolitanism

Isabel Viana
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CTD-O: Developing an online course on curriculum theory and studying how to do it

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Abstract

Curriculum Design Research (CDR) is a branch of educational design research whereby the development of a curriculum or part of it is systematically studied, with a strong focus on the evaluation of successive prototypes of the product being developed. This paper discusses how CDR has been used to study the development of CTD-O, which is a course on Curriculum Theory and Development that started to be taught totally online in 2011/12 in an institution where the full virtualization of a course is still a rare phenomenon. I will describe and discuss the evaluation of prototype 1 (2011/12) and prototype 2 (2012/13) of CTD-O, which was very successful. Most students stated, via questionnaires, that, if they could move back in time and decide whether to take the course online or offline, they would take it online.

Keywords: curriculum design research; e-learning; teaching curriculum theory.

1 Introduction

This paper reports my experience of teaching a course on Curriculum Theory and Development (CTD), via e-learning, in the academic years 2011/12 and 2012/13, at the University of the Azores (UA), Portugal. After teaching related courses through face-to-face instruction for 18 years, I decided to develop an online course, considering emergent calls for the consolidation of e-learning within the above-mentioned institution. In 2011, after attending a training program, I proposed the virtualization of a course on CTD that has been offered to undergraduate students of basic education in Angra do Heroísmo campus. The proposal was accepted by the students and by the governing bodies of the UA. Therefore, its implementation started in the second semester of the academic year 2011/12.

The fact that the full virtualization of a course is still a rare phenomenon in the UA suggests that the experience should be studied in a systematic way. Accordingly, I have used Curriculum Design Research (CDR) to study the development of the above-mentioned online version of a course on CTD, which, from now on, will be designated as CTD-O. CDR is a branch of Educational Design Research (EDR) whereby the development of a curriculum or part of it is systematically studied, with a strong focus on the evaluation of successive prototypes of the product being developed. Plomp (2009) defines EDR as

the systematic study of designing, developing and evaluating educational interventions (such as programs, teaching-learning strategies and materials, products and systems) as solutions for complex problems in educational practice, which also aims at advancing our knowledge about the characteristics of these interventions and the process of designing and developing them. (p. 13)

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). In other words, CDR deals with problems for which heuristics or "how to do" guidelines are scarce. Accordingly, a CDR project typically starts with a research question that represents the researcher's commitment to finding design principles for a given kind of intervention. Models of e-learning and guidelines for online course design can be found in the literature, but they hardly cover the specific needs of CTD-O. Therefore, 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?



In a CDR project, tentative versions of the product being developed – that is, successive prototypes – are usually evaluated and revised in a systematic way. Since the project reported in this paper has followed a prototyping approach, I will describe and discuss the evaluation of prototypes 1 (2011/12) and 2 (2012/13) of CTD-O.

2 Designing CTD-O

Learning Management Systems (LMS) are frequently used to deliver online courses offered by higher education institutions, because they facilitate both the instructor's backstage work in preparing a learning environment and the interaction between the students and that same environment. Since Moodle platform is the only LMS available for all the academic community at the UA, it has been the main electronic resource used in the e-learning experience reported here.

As figure 1 illustrates, CTD-O can be analyzed at three levels. On the first level, the overall organization of the course is considered. The second level is focused on the modules' structure. On the third level, attention is paid to the organization and presentation of the material through which the students are expected to learn and to monitor their own progress in learning.

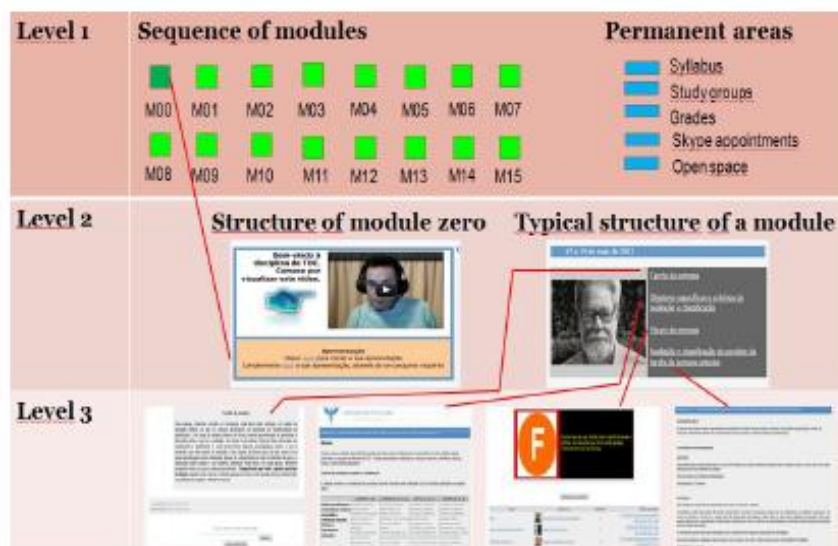


Figure 1: A framework for the analysis of CTD-O.

The design of CTD-O is based on small asynchronous tasks assigned and completed every week. Each week corresponds to a small module. In each module the student has to complete one small task, which is subject to formative assessment and also to grading. The student's final grade at the end of the semester results from the sum of the grades assigned to the modules, instead of depending on two or three written tests or assignments, which is the typical approach in the Portuguese academic tradition. Every week the grade of the previous module is disclosed and formative assessment is provided, in the form of comments whereby mistakes are corrected, the consolidation of knowledge is supported and some information related to upcoming modules is anticipated.

All the material related to each module is revealed to students week by week, although it was inserted into the platform and organized in advance. Figure 2 illustrates the typical structure of a module. Through hyperlinks made available beside the picture of a relevant author (which changes every week), the student accesses all the material that he or she needs in order to proceed with the learning activities. The first link directs the students to a webpage wherein guidelines on how to perform the week's task are provided. Another webpage, which discloses the module's objectives and related assessment criteria, is accessed from the second link. The third link leads to the week's forum, through which I track the students' progress, answer their questions, encourage them to avoid procrastination, and



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stimulate discussion. Finally, another link directs the students to a webpage focused on assessment and grading of the assignment completed in the previous week.



Figure 2: Typical structure of a module.

The first week of the semester is dedicated to a module with a different structure, which was especially designed for the beginning of the semester – module zero. As figure 3 illustrates, that module includes a small video, through which I present the course, as well as two activities that allow the students to introduce themselves: an ice-breaking forum and a questionnaire that collects basic information about the students (e. g., information on their technological competence, their reasons for studying education, etc.).



Figure 3: Structure of module zero.

When analyzing CTD-O at level 1, it is also important to notice that, besides interfaces with the weekly modules, which occupy a central position on the screen, CTD-O provides access to permanent areas related to the course in general, including the course syllabus, a chart with the composition of study groups, a table with the grades assigned in previous modules and the overall grade accumulated by each student so far, a tool for scheduling individual appointments via Skype, and an open space whereby the students can communicate freely with one another via chat or forum.

3 Evaluating CTD-O

The quality of CTD-O has been evaluated in the light of validity, practicality and effectiveness criteria – an approach that has been followed in the evaluation of other products of educational design (Nieveen, 1997; Teixeira, & Silva,



2008). The evaluation techniques have included micro-evaluation, screening, expert appraisal, and tryout, which are the most common approaches in CDR (Nieveen, 1997).

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. In their comments on prototype 1, the external evaluators suggested that the variety of learning experiences provided to the students should increase and that more attention should be paid to some technical aspects of the study materials, especially some audio recordings. Such comments helped me improve the quality of CTD-O in 2012/13.

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 in the context of the training program that I attended. Later on, the implementation of CTD-O in 2011/12 was regarded as a tryout of prototype 1 and its implementation in 2012/13 was regarded as a tryout of prototype 2. In order to express their opinions on the usability of CTD-O, the students responded to an online questionnaire, which was administered in three moments: at the midterm of the 2011/12 edition of the course, at the end of the 2011/12 edition, and at the end of the 2012/13 edition. Because of space limitations, only data related to the second and to the third moments will be presented and discussed here. 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. The graph presented in figure 4 summarizes the students' answers to the question that most directly addressed the usability of CTD-O from their perspective. As the graph suggests, the students have considered CTD-O usable.

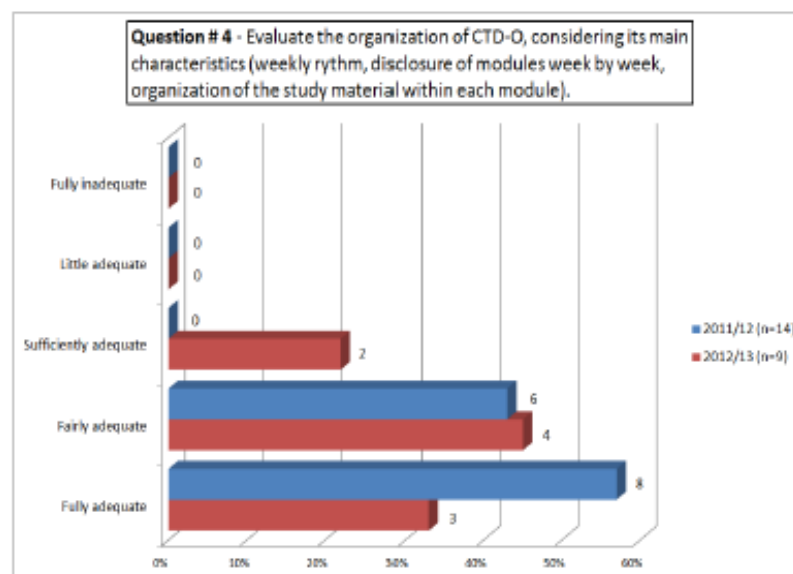


Figure 4: Analysis of students' answers to question # 4 of the questionnaire (evaluation of the organization of CTD-O).

Students also have evaluated the effectiveness of CTD-O favourably, considering that, as the graph presented in figure 5 illustrates, 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 were 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.



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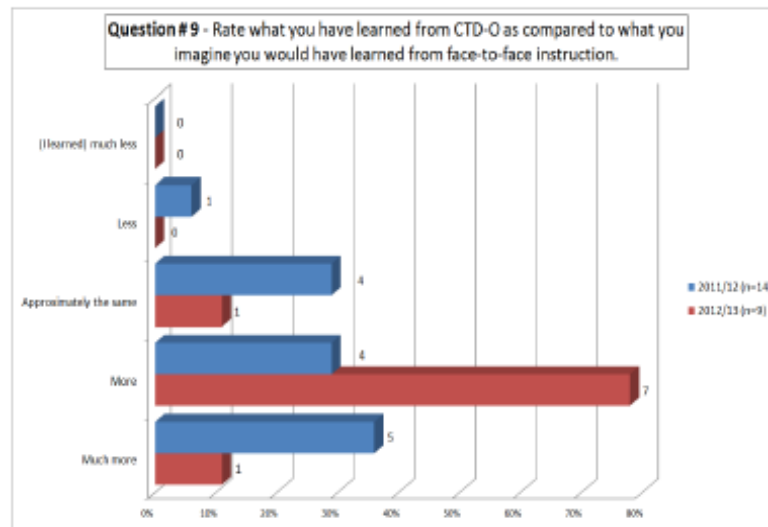


Figure 5: Analysis of students' answers to question # 9 of the questionnaire (students' overall perception of CTD-O as an effective source of learning, as compared to an imagined situation of face-to-face instruction).

CTD-O has also 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). Since, in the literature review, I did not find a checklist that could be directly applied to CTD-O, I composed a checklist by synthesizing contributions from different sources, including texts on e-learning in general and texts that convey guidelines for teaching courses from other fields online (Edwards & Gordon, 2010; Herrington, Reeves, & Oliver, 2010; Stevens-Long & Crowell, 2010; Wijekumar, 2010). According to the above-mentioned synthesis, CTD-O should have the following characteristics:

- Provide very clear guidelines for the students' tasks
- Provide a learning environment that, on the one hand, has a consistent structure and, on the other hand, allows for surprise, exploration and discovery
- Facilitate the students' concentration on the essential information, by excluding unnecessary material that may divert their attention
- Ensure regular student participation
- Ensure the instructor's presence online, through regular interaction with the students
- Allow the participants to express emotions
- Include a safety plan, which minimizes damage in case a serious technical problem occurs
- Take advantage of the fact that every piece of online communication is automatically recordable and may eventually be used as study material whose quality can be more easily controlled than notes taken in a traditional classroom
- Balance different channels of information transmission (e. g., by combining visual presentation with voice narration)
- Ensure interaction and collaboration among students, including reciprocal comments on assignments
- Provide regular feedback and scaffolding
- Maximize the provision of feedback and scaffolding to the group-as-whole, considering that responding to every individual posting is an inefficient (and probably unsustainable) practice
- Provide tools that allow students to track their progress

These ideal characteristics are relevant for several kinds of quality criteria, especially effectiveness and construction validity. They all have been taken into consideration in the design of CTD-O. The results of screening have suggested that there are some cases in which the corresponding real characteristics of CTD-O need special attention.

The design of the learning environment (second characteristic on the list) has been improved. Special attention has been paid to the design of level 3 interface (cf. framework for the analysis of CTD-O – figure 1), which still had a



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gloomy aspect in prototype 1, because of a simplistic usage of some Moodle tools. In prototype 2 its design became more attractive.

With regard to exclusion of material that may divert the students' attention (third characteristic on the list), the portion of music provided in some resources needs to be reduced. The insertion of a musical background in some recordings of the instructor's voice may contribute to a more pleasant listening experience, but if it becomes outstanding it will probably distract the students, as one of the external evaluators remarked.

Taking advantage of tools provided by the LMS that allow for easy recording, storage and organization of data (eighth characteristic on the list) has been one of the most rewarding aspects of the experience, for it has helped me question the myth that effective online teaching is only possible if the courses offered are purely theoretical. By attending CTD-O, the students had to plan and implement short sessions of teaching with small groups of children. Those sessions were recorded on video and the students handed in assemblages of selected segments of the recordings. Each assemblage, which was 5 minutes long, was commented through a small text posted beside it in the platform, as figure 6 illustrates. This sequence of procedures allowed for an efficient analysis of the practical activity performed by the students, inasmuch as the comments were focused on the most important aspects of the activity and were recorded on a durable and easily retrievable format. Such level of efficiency is more difficult to achieve in a situation based on direct observation of practice, note-taking, and oral comments.

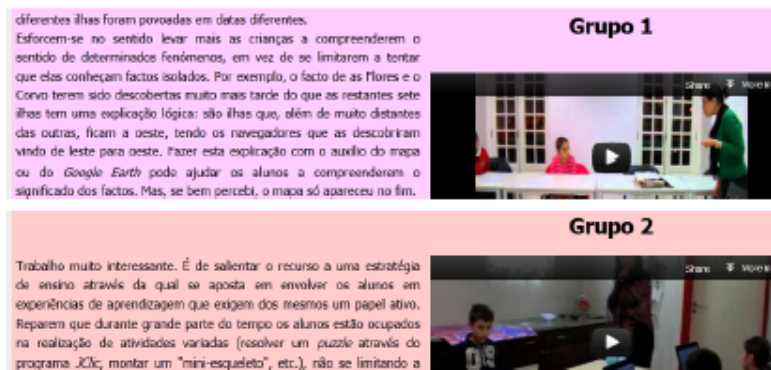


Figure 6: Examples of written comments to videos that showed practical activities performed by the students.

In CTD-O, very detailed feedback was provided to group assignments. Feedback to individual assignments was usually provided through texts with comments that applied to the whole set of assignments submitted in the context of a given module, illustrated with passages from some students' productions. Some students claimed detailed individual feedback for every assignment. Although in 2012/13 I tried to raise the students' awareness of the fact that such practice would be unsustainable (twelfth characteristic on the list) and encourage them to reflect on the implications of general comments to their individual cases, claims for individual feedback decreased but did not cease.

4 Conclusion

The evaluation of CTD-O is positive. The objectives of the course have been achieved and there is evidence of overall student satisfaction, despite some cases of less satisfaction with regard to some specific aspects, especially the amount of feedback provided.

CDR is expected to advance knowledge, through the statement of design principles, about the desired characteristics of the interventions designed. As a small research project, CTD-O does not add much to the design principles related to distance education in general that have already been conveyed by the literature. Nevertheless, considering that e-learning is only taking the first steps within the UA, the results of this study may eventually be taken into consideration in the context of other local experiences.

One of the most rewarding aspects of CTD-O has been the application of the principle that one of the advantages of e-learning is the possibility of easily transforming any piece of communication that flows within the course into study



material whose quality can be controlled. References to this principle in the literature are frequently implicit rather than explicit. Its application to CTD-O suggests that it can be further explored, which may eventually contribute to the generation of more attuned design principles.

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