



A course design workshop as a possible path from a content-centered to a learning-centered teaching

Uma oficina de planejamento de disciplina como possível caminho de um ensino centrado no conteúdo para um ensino centrado na aprendizagem

Un taller de diseño de cursos como un posible camino de una enseñanza centrada en el contenido a una enseñanza centrada en el aprendizaje

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Abstract

In order to meet the needs of a constantly changing Society, the Universities need to constantly improve their processes of teaching and learning. To do so, it is essential that professors are fully committed and well prepared to teach aiming at students learning, instead of content delivery. Faculty development programs might be helpful to support the institution and the professors in this way. Since designing these programs is a challenging task, we intend to contribute with faculty developers by reporting our experience here. We have adapted a course design workshop developed at McGill University to our context at PUCPR, in Curitiba, South of Brazil. During the workshop, the participants had to write a new syllabus of their course, elaborate a concept map, both of them with only the essential aspects for learning. They had to define the learning outcomes and only afterwards to choose active methods to help students achieve them. Throughout the whole process, participants gave feedback to each other. The activities of the workshop, along with the fruitful discussions among professors of different backgrounds helped professors to view the content as something that supports the development of learning outcomes. Therefore, we conclude that this workshop has opened the way to methodological innovations that develop learning of higher cognitive dimensions, since the professor has established more challenging expectations for the students when writing the new teaching plan.

Keywords: Higher education teaching and learning. Faculty development. Constructive alignment. Teaching plan.

Resumo

A fim de satisfazer as necessidades de uma sociedade em constante mudança, as universidades precisam melhorar constantemente os seus processos de ensino e aprendizagem. Para tanto, é essencial que os professores estejam totalmente comprometidos e bem preparados para ensinar com o objetivo de que os alunos aprendam, e não focados na entrega de conteúdo. Programas de desenvolvimento pedagógico docente poderiam ser úteis para apoiar a instituição e professores neste sentido. Como o design desses programas é uma tarefa difícil, pretendemos contribuir com os conselheiros pedagógicos, relatando a nossa experiência aqui. Nós adaptamos uma oficina de design de disciplina desenvolvido na Universidade McGill ao nosso contexto na PUCPR, em Curitiba, no sul do Brasil. Durante a oficina, os participantes redigiram uma nova ementa e produziram um mapa conceitual para sua disciplina, ambos com apenas o essencial para a aprendizagem. Então, definiram os resultados da aprendizagem e só depois escolheram métodos ativos

para ajudar os estudantes a alcançá-los. Ao longo de todo o processo, os participantes deram retorno para as atividades uns dos outros. As atividades da oficina, juntamente com as discussões frutíferas entre professores de diferentes origens, nos ajudaram a visualizar o conteúdo como algo que apoia o desenvolvimento dos resultados da aprendizagem. Portanto, podemos concluir que esta oficina abriu caminho para as inovações metodológicas que desenvolvem a aprendizagem em dimensões cognitivas superiores, uma vez que o professor definiu expectativas mais desafiadoras para os alunos ao escrever o novo plano de ensino.

Palavras-chave: *Ensino e aprendizagem na educação superior. Desenvolvimento do corpo docente. Alinhamento construtivo. Plano de ensino.*

Resumen

Con el fin de satisfacer las necesidades de una sociedad en constante cambio, las universidades necesitan mejorar constantemente sus procesos de enseñanza y aprendizaje. Para ello, es esencial que los profesores estén plenamente comprometidos y estén bien preparados para enseñar con el objetivo de que los estudiantes aprendan, en lugar de entregar contenidos. Los programas de desarrollo de la facultad podrían ser útiles para apoyar a la institución y los profesores de esta manera. Ya que diseño de estos programas es una tarea difícil, tenemos la intención de contribuir con los desarrolladores de la facultad, informando de nuestra experiencia aquí. Hemos adaptado un taller de diseño de curso desarrollado en la Universidad McGill a nuestro contexto en la PUCPR, en Curitiba, al sur de Brasil. Durante el taller, los participantes tuvieron que escribir un nuevo plan de estudios de su curso, elaborar un mapa conceptual, ambos con sólo los aspectos esenciales para el aprendizaje. Tuvieron que definir los resultados del aprendizaje y sólo después elegir métodos activos para ayudar a los estudiantes a alcanzarlos. Durante todo el proceso, los participantes dieron retroalimentación a los demás. Las actividades del taller, junto con las discusiones fructíferas entre profesores de diferentes orígenes, ayudaron a los profesores a ver el contenido como algo que apoya el desarrollo de los resultados del aprendizaje. Por lo tanto, concluimos que este taller ha abierto el camino a las innovaciones metodológicas que desarrollan el aprendizaje de las dimensiones cognitivas superiores, ya que el profesor ha establecido expectativas más desafiantes para los estudiantes al escribir el nuevo plan de enseñanza.

Palabras clave: *Enseñanza y aprendizaje en la enseñanza superior. Desarrollo de la facultad. Alineación constructiva. Plan de enseñanza.*

Introduction

Universities have been challenged to form individuals that are able to act effectively in society as entrepreneurs, leaders, creative thinkers, able to solve complex problems and to deal with a constantly and rapidly changing body of knowledge in their fields. Additionally, the access to higher education has been amplified in the last decades, especially in developing countries, demanding a larger number of professors prepared to teach and embrace students with heterogeneous intellectual, social and demographic characteristics (ZABALZA, 2004). The response to these challenges requires improving teaching in order to foster learning of high level thinking skills. Therefore, the professors play an essential role in this process even though it is possible that they are barely prepared to it (PIMENTA; ANASTASIOU, 2002).

Frequently, higher education professors view themselves exclusively as experts in their subject areas, often ignoring pedagogical concepts or adopting teaching habits that are based on misconceptions about students and learning. If they are well known professionals in their fields of activity, they often consider that they can also teach as if teaching in higher education does not require specific training for that (PIMENTA; ANASTASIOU, 2002). As the established scholars do not express an interest in teaching or do get involved in promoting quality teaching, this obliges the novice professors to carry out his or her professional development alone, in isolation, subject to all kinds of errors and distortions, as they learn to “teach by teaching” (ZABALZA, 2004). This situation does not necessarily result from a lack of interest, but may also be a reflection of the pressure put on professors to be more productive in research and the dissemination of it (MEYER; VOSGERAU, 2016).

Any of these reasons highlight the importance of institutional support for quality teaching and a permanent credible professional development program that can engage in fostering teaching and learning. Such programs must be aligned with the institutional pedagogical project as well as with the individual needs of the professors, both of which are challenging (ZABALZA, 2004) in several ways. Firstly, the program must seek a balance between theory and practice, to enable participants to change their view of

teaching anchored in a correct conceptual framework, but without sinking in long theoretical discussions that might not impact their practice. Second, as learners, university professors are rigid and require the legitimacy and credibility of their trainers. Finally, the program will require dealing with adverse conditions but, nonetheless, promote follow-up and support activities, turning the work place of professors into a learning place.

To face these challenges, universities might rely on faculty development units, also called Centers for Teaching and Learning (CTL). When designing a program, the Faculty Developers (FD) need to consider their context, their knowledge, the aims they want to achieve and factors that increase their chance of success. It is possible to rely on the literature to guide the actions of the CTL. Regarding organization of CTL actions, Biggs (2001) proposes that a theory of teaching and learning should be adopted by the center and the programs should not focus only on teaching tips. Moreover, this author recommends that the CTL should foster a learning environment in the whole institution and have a formal relationship with each teaching department or academic unit. Regarding the programs themselves, Nóvoa (2013) and Zabalza (2004) consider that professional development takes place in a personal and also collective perspective, without forgetting the importance of preparing the professor to deal with the emotional aspect of his profession, not only in the relationship with the student, but with the whole community. Therefore, although the individual aspects are important when designing faculty development actions, the collaboration is highly valued by professors, who appreciate the opportunity of exchanging experiences with their colleagues.

In spite of the existence of literature on the field, we consider that designing faculty development programs or even isolated activities is a challenging process as they have to be tailored to the institution where it takes place and the particular moment it is situated in. For this reason, this manuscript aims at describing and analyzing a faculty development program organized by the CTL of the Pontifical Catholic University of Parana (PUCPR) in South Brazil, which was inspired by a Canadian program conducted at McGill University (SAROYAN et al., 2004).

Even though this report is restricted to a particular and unique action — a Course Design Workshop (CDW) — we consider that it is worth sharing with the Community as it encompasses elements which enriched the experience and might give rise to forthcoming research and discussions on faculty development. Among these elements is the partnership between a newly established CTL in Brazil and one of the founders of the first CTL in Canada. Moreover, we believe that other faculty developers might profit from this case, either by considering our inferences or by making their own generalizations (USOS and ABUSOS). We organize the manuscript in the following manner: first the context of PUCPR and the chain of events that led to the partnership and the development of the CDW are presented; then the Canadian Course Design and Teaching Workshop (CDTW) is described briefly, along with some of its theoretical underpinnings; then, the development and execution of the CDW of PUCPR is described and, finally, some final remarks are presented with a short analysis of the process.

The local context and the encounter

In 2012, PUCPR launched a new Institutional Pedagogical Project in which it defined, among other goals, that: teaching should be oriented to the development of graduate competencies; professors should be promoters of learning inside and beyond the university context, and students should be autonomous agents and responsible for their learning process. From 2014 on, these ideas gained strength and consistency, with the establishment of the guiding principles for the teaching and learning processes at the University: autonomy, cooperation, dedication, honesty and critical sense. After a broad debate in the academic community, the reflection upon the principles was unfolded in its philosophical, ethical and pedagogical aspects (SPRICIGO; OLIVEIRA; MARTINS, 2016). Parallel to the establishment of the guiding principles, a movement for innovation in undergraduate teaching was initiated, aiming at assuring the development of competencies. This movement relies on two major lines of action: (i) at program level, revising the curricula

of undergraduate programs based on a conceptual framework on competence based teaching adopted throughout all institution (SCALLON, 2015), and (ii) at classroom level, incorporating active learning pedagogies in the processes of teaching and learning.

In order to conduct these lines of action, the university created, in 2015, its center for teaching and learning whose main task is to support professors in the process of innovation of their practices. Similar to other CTLs, this center has offered short workshops, each of them devoted to a particular active learning method. Other activities, such as individual consultancy and discussion meetings have also been carried out to support learning centered teaching practices. The workshops have been attended and praised by many professors, and have been somewhat effective in fostering the adoption of active learning methods. Notwithstanding, the CTL team has been aware that such workshops might not promote a deep, long lasting change in teaching, as reported in the consulted literature (SAROYAN et al., 2004). When the CTL was seven months old, its team had the opportunity to receive counselling and training from a faculty developer who, together with others at McGill University created a workshop aimed at addressing changes in teaching.

In the initial interaction, the members of CTL took part in the workshop as learners and experienced its impact on the way they teach their own courses. This experience compelled them to develop a new version of the workshop as part of a major academic innovation project at PUCPR. It is important to stress that the program adopted for local dissemination was not a mere replication of an established process in North America (SAROYAN et al., 2004) but was adapted to take into account local experiences, practices, and contexts.

The CDTW of McGill University

The CDTW was conceptualized by a small group of faculty developers at McGill University and implemented for the first time in 1991. Since then, it has become a standard workshop, offered to McGill faculty annually. The model of this workshop has also been adopted by more than a dozen Canadian and international universities. The idea of the workshop evolved

as a result of years of work of a small group of faculty and educational developers at McGill. It was further shaped with this group's understanding of the academic literature on faculty development and their appreciation of new global trends and their influence on postsecondary institutions.

They knew from experience that most professors consider themselves as subject experts and not pedagogues and that most see teaching as an end (i.e., something they do) without necessarily thinking of the impact of their teaching on student learning. They also knew that any effort to change one's teaching habits would require the acknowledgement that there is a need for change. Finally, the faculty developers were keenly aware of the limitations of short, topical workshops and their inadequacy in creating opportunities for reflection in and on action; a necessary process in bringing about substantive change in beliefs about teaching and learning and subsequently change in teaching behaviors.

Concurrent with these observations, they were cognizant of global trends and the new demands these trends put on higher education systems, particularly with respect to the relevance and quality of education and graduate outcomes. For instance, a solid grasp of disciplinary knowledge can no longer be considered an adequate educational outcome. Graduate success in the 21st century requires fully developed higher order cognitive abilities and social and emotional skills that are transferrable over contexts and can be used over a lifespan. Fostering these skills and attributes are more likely through student and learning oriented rather than teaching oriented approaches. Making the shift from thinking about teaching to thinking about student learning, though subtle, is neither evident nor easy to implement and requires carefully planned pedagogical and professional development initiatives. The CDTW was the response to this need.

In planning the details of the workshop, the McGill team relied heavily on the academic literature. Of particular value was Schwab's (1970) notion of the four commonplaces — the students, the professor, the subject matter, and the context. This provides a framework to think about:

- a) What students bring to the educational experience; e.g., prior knowledge of the subject matter, conception of learning, expectations about responsibility for learning, extent to which success in learning has been experienced;
- b) What the professor brings to the educational experience; e.g., perspective on teaching and learning, prior experience of teaching in general and the course being taught, perspective on the role of the instructor;
- c) How the subject matter or discipline affects the educational experience; e.g., how the knowledge structures of the discipline influence the nature of the tasks that are engaged in by those in the discipline (DONALD, 1986), the type of learning that is required (often related to the level of the course).
- d) How the context or external factors influence the nature of the instruction; e.g., whether the course is required or not, size of the class, other responsibilities of the professor and students, institutional factors.

The team developing the workshop knew that effective teaching decisions are those made on the basis of the commonplaces outlined by Schwab rather than out of habit or because of what others do. The CDTW was conceived on the premise that professors develop into competent instructional decision-makers through an intellectual process. Subject-matter expertise is used to clarify and articulate the student learning that is desired, becoming the reference point for all subsequent decisions. Competency is thus developed through the practice and close examination of decision sequences and teaching actions. Self and peer analyses assist this process because they enable an individual to explore alternative possibilities and potential outcomes; moreover, they foster an openness to different ways of approaching the teaching task.

The intellectual exercise of understanding the rationale for a teaching method and how it relates to learning, and testing out the teaching

method is akin to what professors do as scholars. A teaching method that is so presented is more likely to be internalized. Moreover, given the importance of subject matter for faculty and the passion with which it is accompanied, the subject matter needs to assume a focal point in the process and is an anchor for sustaining newly gained pedagogical knowledge.

The CDTW offers a comfortable environment where faculty can begin to understand teaching as a scholarly activity and are given the opportunity to engage in intellectual discussions on teaching with colleagues. Work is done in cross-disciplinary groupings of professors. This composition helps deflect the focus from subject matter expertise as everyone is placed on a level playing field. The change process — from teaching — to learning-centered — is further facilitated through peer group interaction and with sufficient time to turn thoughts into actions. The Workshop activities themselves are deemed by participants to be meaningful, relevant, and valuable, because they are focused on a course and instructional context of each participant's choice. There is both intrinsic and extrinsic motivation for making changes to well established habits: intrinsic because of personal gain; extrinsic because of the potential to meet university expectations and reward system for teaching performance. Moreover, there is the opportunity to have meaningful discussions with members of a community in which the participants have a significant professional and personal investment. All these conditions correspond with those outlined by Centra (1993) and others as fundamental in helping faculty embrace teaching development and curricular innovation in higher education.

Two core activities help individuals articulate their beliefs about teaching and learning and to put them out for constructive criticism by their peers. These are concept mapping and microteaching. The concept mapping activity helps individuals graphically represent how they understand and visualize content of their course in terms of concepts (rather than topics) and the relationship these concepts have with one another. Often, this activity leads to identifying and including concepts in the course design that are not necessarily related to the topics included in the course but that are of great importance to the professor. Skills and attributes such as

critical thinking and team work are examples of such concepts. The micro-teaching activity enables participants to experiment, using an interactive teaching approach that they are unfamiliar with. This teaching event is videotaped and played back to the group and is used as the stimulus to elicit reflection on the part of the individual and feedback from group members.

The CDW of PUCPR

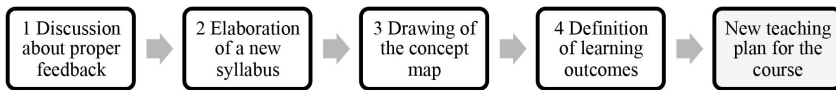
The PUCPR version of the CDTW was implemented in the second semester of 2016 and offered to a group of 60 professors selected among more than a hundred applicants. They participated in a major innovation project and received financial support for that. Along with the innovation in teaching, the professors were required to engage in a process of reflection on their practice during the semester. The workshop took place from October to December of 2016.

The major challenge in the context of the institution is the construction of competency-based curricula developed through disciplinary matrices, because it is usually fragmented. This task requires that the courses develop the skills of the alumni in an integrated way, each one limited to its subject area and learning outcomes. Therefore, the learning outcomes of each course need to contribute, at some extent, to the development of the desired competencies, in a coherent and progressive way, so that, at the end of a sequence of courses, the student is able to mobilize and integrate knowledge to solve authentic and complex tasks.

Experience shows that the professors often consider that they are promoting student learning by good transmission of content. However, in a competence based program, the focus is not the content itself but what the student is able to do with that content. This change of focus is a major difficulty of the professors as they have always been given a list of topics to cover, not necessarily accompanied by their purpose in the context of a pedagogical project. For this reason, the course design workshop at PUCPR focused on the elaboration of an innovative teaching

plan with a clear statement of the desired learning outcomes. The learning outcome of the workshop was planning a course accordingly with a design strategy, focused on learning outcomes and in the essential meaning of the course in the academical and professional contexts (Figure 1). During the workshop professors had to write a new syllabus for their course, to construct the concept map, as in the original workshop at McGill, state the learning outcomes and chose teaching methods accordingly, applying the concept of constructive alignment (BIGGS; TANG, 2007).

Figure 1 - The four stages of the course design workshop of PUCPR aiming at the elaboration of a new teaching plan



Source: elaborated by authors.

The activity of microteaching was not included in this version of the workshop in order to prioritize the shift from content to learning outcomes. This the reason why this workshop is named CDW instead of CDTW. It was anticipated that with well-defined learning outcomes and an articulated view of the concepts to be addressed, the professors would be able to choose the active methodologies and assessment strategies according to the desired results and for pedagogical purposes, instead of using other criteria such as familiarity with the method.

It is important to emphasize that the professors involved in this process were already aware of the need for change and willing to do so. For this reason, the step of raising awareness about the need for change was already fulfilled before the beginning of the workshop. Considering that the methodology to be used in the workshop was based on the appreciation and criticism of colleagues, the work began with a brief discussion about giving and receiving constructive criticism based on material by Verderber and Verderber (1983 apud LEPTAK, 1989). The aim of this activity was to prepare teachers to criticize performance rather than the person by providing

specific information and ideas for improvement. It was an important moment of reflection, which paved the way for the other activities, and that will be kept in the next editions of the workshop given the positive impact it had on all activities that required the input a professor from another subject area. As reported in the McGill University experiment, the views and inquiries of colleagues from a different area helped professors to glimpse other possibilities for their teaching plans, perhaps never considered before (SAROYAN et al., 2004).

The second moment of the workshop consisted in the elaboration of the course syllabus with a new perspective, no longer as a list of topics, but as a text informing the student what they will gain by attending the course. After giving explanations about the way the syllabus should be written, some previous examples were presented. In order to facilitate the feedback, a checklist with a correction protocol should be used (Figure 2). The presentation of examples and the existence of a correction protocol were fundamental to guide the process and to guarantee that the first version of the syllabus was already in accordance to the expected results, allowing for a more fruitful discussions and feedback. Each professor presented his or her syllabus to a colleague of a different area, who filled the feedback form and asked questions as if he or she were a student. After about 45 minutes of activities, teachers who received criticism in four out of the seven items in the correction protocol presented the two versions of their syllabus in plenary, highlighting the improvements.

Figure 2 - Form with the assessment protocol for the syllabus

Assess the syllabus of a colleague according to the following parameters			
	Yes	Partially	No
It has between 50 and 60 words			
Employs present tense and active voice			
Employs correct terminology avoiding ambiguity			
Identifies the audience or provides other relevant information about the expected degree of complexity			
Positive aspects that you identified:			
Suggestions for improving the syllabus:			

Source: elaborated by authors.

By the end of this process it was possible to observe the evolution of the syllabus. In Figure 3, two versions of the syllabus of the course of Civil Liability are presented. It can be observed that the first version was not clear in its writing, nor was it conclusive as to what the student would be able to do at the end of the course. In addition, it contained more than 66 words. The effort to make the writing clearer and more concise led to the second version, where the relationship between the topics for student learning was evidenced: it is very clear what the student is able to do at the end of the course. The information that the course composes a second part of a group of knowledge of the Law program identifies the targeted audience and the degree of complexity. In general, professors had some difficulty in writing the syllabus in the new form, focusing on what is expected in terms of student learning rather than content. They also struggled to keep the text with less than 60 words, but this is an important requirement as it imposes a more concise language and the recognition of which information is absolutely essential.

Figure 3 - Example of two versions of syllabus in the course of Civil Responsibility of the Law Program.

First Version:

The course of Civil Responsibility, is part of the Law of Obligations, where concepts and principles of civil law are studied, with the aim to repairing the indemnifiable damages, leading the student to identify the effects of the damage, the mechanisms of defense of the author and the corresponding indemnity, so that in the end, he or she can solve conflicts and apply the ways of prevention and precaution of the occurrence of the damage.

Second Version:

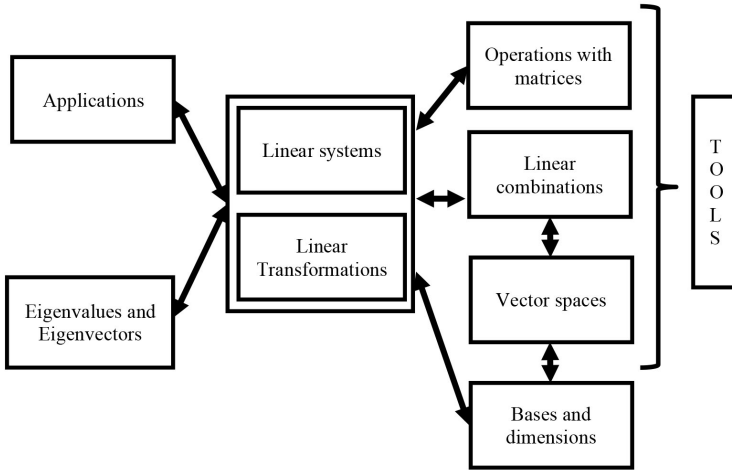
This course, of the Law Program, studies the civil responsibility, as part II of the Obligations. At the end of the course, the student is able to identify the social repercussion and effects of the damage, civil liability and defense mechanisms of the author, the corresponding indemnity and the ways of prevention and precaution of the occurrence of the damage.

After the writing of the new syllabus, the professors were invited to draw a concept map, representing the relation between the concepts addressed in their course and in accordance to their meaning for student learning. The goal of this activity is that the professor express,

what is the core essence of their course. It is the way to reveal how the topics of the content are connected in the professor's mind. Some professors used the technique of brainstorming, grouping together similar concepts, and constructing the map. Others started directly by drawing the map, based on the reflection they carried out when writing the syllabus. Each professor was asked to present his or her map to a colleague from another area, who should pose questions and make criticism. It was observed that the reflection on the map led to changes in the syllabus of the discipline. Some professors elaborated up to four versions of their concept map, and several other versions of the menu, demonstrating a healthy reflection during the process. The establishment of the relations between the topics of the content was, surely, one strength of this activity. More importantly, however, was the possibility to incorporate some elements in the map, which are beyond the list of topics and are fundamental to the development of the desired learning outcomes.

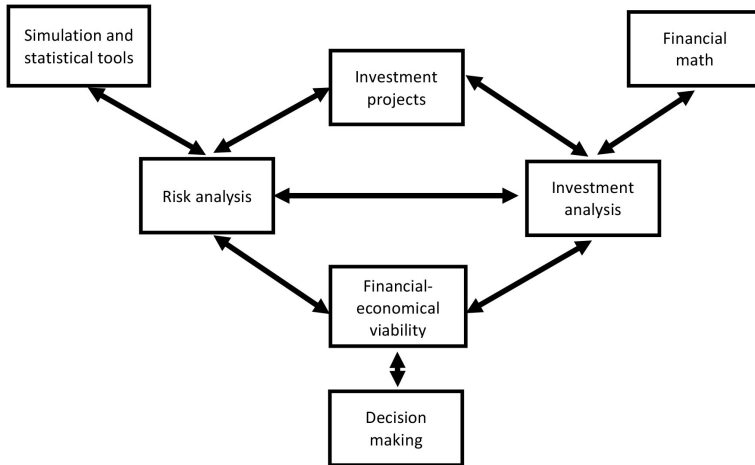
We witnessed that the constructions of the concept map and the syllabus can alter the whole structure of the teaching plan. With the new vision the professor acquires from his or her course, a certain sequence he or she used to follow may not make sense anymore, nor the time spent with each topic. As an example, after elaborating the concept map of the course of Linear Algebra (Figure 4), the professor concluded that the main topics of the course are linear systems and linear transforms and that great part of the content are tools for solving them. She then, realized that most of her classes address only the tools and not the core of the course. Similarly, a professor of Economic Engineering concluded that 90% of the time of his classes was spent with topics which are in the periphery of the map (Figure 5), related to financial math, which are tools for conducting analysis of economic feasibility and of investment projects. This professor realized that, in his classes, the students were not asked to accomplish tasks requiring studies and projects of that kind and the assessment was restricted to solving simple exercises financial math.

Figure 4 - Concept map of the course of Linear Algebra



Source: Adapted from the original by Vanessa Ales.

Figure 5 - Concept map of the course of Economic Engineering



Source: Adapted from the original by Carlos Rosa.

At the fourth stage of the workshop professors were asked to write the learning outcomes from the syllabus and the concept map. To this end, the concept of learning outcomes was presented and the professors were instructed to write their learning outcomes accordingly. Similarly to what was done with the syllabus a correction protocol was elaborated to guide the writing and the feedback. The professors were asked to share one of their learning outcomes with a colleague and receive feedback. Differently from the other stages, this one was not finished during the meetings of the workshop. Instead, the pedagogical counselors gave feedback to all participants regarding their L.O. online. It was common for teachers to forget the concept map and the syllabus when writing the learning outcomes of the course. As a consequence, some fell into the trap of writing one L.O. for each topic of the list of contents simply by adding a verb before it. When this happened, the topics remained isolated, their relations were not revealed in the L.O. which were restricted to cognitive processes of comprehension and application of Bloom's taxonomy. The CTL team made a huge effort to help professors write L.O. in accordance to their concept maps. Professors were also challenged to establish learning outcomes at higher level of cognitive processes (Analysis, Evaluation and Creation), when possible.

Final remarks

Through this process of reflection, professors who participated in the workshop have realized the need to change teaching methodologies to achieve more complex and challenging learning outcomes. The workshop also revealed that some professors do not really know the purpose of their courses. Typically, they receive a list of content to be covered and set up a teaching plan according to their abilities and beliefs. This shows the importance of having a consistent course design and a teaching plan led by professors in the classroom, who should commit to a complete pedagogical project.

There have been reports that have confirmed the impact of the workshop on the professors' view of the essence of the course they teach. The content started to be viewed as something that supports the development of learning outcomes. Therefore, we conclude that this workshop has opened the way to methodological innovations that develop learning of higher cognitive dimensions, since the professor has established more challenging expectations for the students when writing the new teaching plan. Consequently, the teaching methods needed to be selected according to the constructive alignment, leading to methodologies for active learning. In this way, the methods were chosen to support learning and not merely to maintain the students active.

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References

- BIGGS, J. The reflective institution: assuring and enhancing the quality of teaching and learning. *Higher Education*, n. 41, p. 221, 2001.
- BIGGS, J.; TANG, C. *Teaching for quality learning at university*. 3. ed. Poland: SRHE and Open University Press Imprint, 2007.
- CENTRA, J. *Reflective faculty evaluation*. San Francisco: Jossey Bass, 1993.
- DONALD, J. G. Knowledge and university curriculum. *Higher Education*, v. 15, n. 3-4, p. 267-282, 1986.

LEPTAK, J. Giving and receiving constructive criticism. *Lifelong Learning*, v. 12, n. 5, p. 25-26, 1989.

MEYER, P.; VOSGERAU, D. S. R. Colaboração entre pares no desenvolvimento profissional de professores universitários. In: REUNIÃO CIENTÍFICA DA REGIÃO SUL – ANPED SUL, 11., 2016, Curitiba. *Anais...* [S.l.]: ANPEd, 2016.

NÓVOA, A. Os professores e o novo espaço público da educação. In: TARDIF, M.; LESSARD, C. (Org.). *O ofício de professor*. Petrópolis: Vozes, 2013.

PIMENTA, S. G.; ANASTASIOU, L. G. C. *Docência no ensino superior*. São Paulo: Cortez, 2002.

SAROYAN, A. et al. The course design and teaching workshop: why and what. In: SAROYAN, A.; AMUNDSEN, C. (Ed.). *Rethinking teacher in higher education*. Sterling: Stylus, 2004. p. 3-14.

SCALLON, G. *Avaliação da aprendizagem numa abordagem por competências*. Curitiba: PUCPRes, 2015.

SCHWAB, J. J. *The practical: a language for curriculum*. Washington, DC: National Education Association, 1970.

SPRICIGO, C.; OLIVEIRA, J.; MARTINS, V. *Mosaico de cinco cores: princípios orientadores para os processos de ensino e aprendizagem na educação superior*. Curitiba: PUCPRes, 2016.

ZABALZA, M. A. *O ensino universitário: seu cenário, seus protagonistas*. Porto Alegre: Artmed, 2004.

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