Beyond administration: An online multicampus platform for curriculum development

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INTRODUCTION

The annual inventory of curriculum changes for the development and renewal of educational programmes is essential at higher education institutions (HEIs). At KU Leuven, curriculum development is a key responsibility for Programme Committees of all the faculties, and the approval of curriculum changes is a well-documented and yearly process.

In the year 2013, the KU Leuven embraced the establishment of a new multicampus faculty, the Faculty of Engineering Technology, with 600 staff members and close to 6.000 students located at seven geographically dispersed campuses in Flanders (Belgium). From the beginning, the organizational structure of this multiregional faculty represented a challenge for faculty support services, such as the data management for the abovementioned process.

This paper describes the development and implementation of a new educational curriculum development system, supported by the faculty educational developer and adapted to the multicampus context. Following the elaboration of a workflow model

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by a team of specialist support staff, an online platform was designed to facilitate multicampus collaboration among staff members as well as to enhance transparency during the information flow through several governing organs of the faculty before submitting data at the central university administration.

1 BACKGROUND AND PREPARATION

Literature indicates there is a growing interest in curriculum assessment and development in higher education institutions. Amongst many recommendations how best to support this evolution, the development of a collaborative, faculty-driven process facilitated by educational developers is often mentioned [1,4] as well as the recommendation to involve most – if not all – stakeholders during the development process of a new resource [2].

1.1 Multicampus context

A multicampus faculty with seven geographically dispersed campuses addresses specific bottlenecks during curriculum development processes. As each educational programme is taught simultaneously at more than one campus, each Programme Committee needs to enhance and coordinate the collaboration between staff members working at those different locations (Figure 1).

	CAMPUS GROUP T LEUVEN	TECHNOLOGY CAMPUS DE NAYER	TECHNOLOGY CAMPUS GEEL	TECHNOLOGY CAMPUS GHENT & AALST	TECHNOLOGY CAMPUS OSTEND	TECHNOLOGY CAMPUS DIEPENBEEK
Bachelor of Science in Engineering Technology						
- Civil Engineering		■		■	■	■
- Chemical Engineering	■ (E)	■		■		■
- Electromechanical Engineering	■ (E)	■	■	■	■	■
- Electronics and ICT Engineering	■ (E)	■	■	■	■	■
- Polymer Porcessing Technology					■	
- Nuclear Engineering						■
- Packiging Engineering						■
Bachelor of Science in Bioengineering Technology			■			
Master of Science in Engineering Technology						
- Biochemical Engineering	■ (E)	■		■		■
- Electromechanical Engineering	■ (E)	■	■	■	■	■
- Chemical Engineering	■ (E)	■		■		■
- Electromechanics Engineering	■ (E)	■	■	■	■	■
- Electronics and ICT Engineering	■ (E)	■	■	■	■	■
- Energy Engineering		■	■	■	■	■
- Polymer Processing Technolgy					■	
- Nuclear Engineering						■
- Packaging Engineering						■
Master of Science in Food Science, Technology and Business				■ (E)		
Master of Science in Bioengineering Technology						
- Agro- and Horticultural Engineering			■			
- Food Industry Engineering			■			

Fig. 1   Educational programmes at the different FET-campuses (E: Programme in English)

Multicampus collaboration is slowed down by the distances between working places and difficulted by the fact that staff members are not always aware of the specific local organizational cultures at other locations. Also, as campuses formerly were independent institutions, staff members acquainted with locally well-established management processes are often reluctant to adopt new procedures, or feel uncomfortable to address persons located outside their campus for those tasks. Also, they receive less feedback about what happens with data and which process steps are next than they were used to.

Figure 2 illustrates the increased level of organizational complexity in the flow of curricular data since the establishment of the new Faculty. Programme Committees need to collect and assess curricular data from several campuses and subsequently gain approval from the main Faculty governing bodies before submission at the central university services.

1.2 Elaboration of a workflow model

To enhance transparency for all stakeholders involved in this complex data management process, a detailed workflow-model was drawn using Microsoft Visio© in order to encompass all tasks involved. In this workflow, several faculty staff members and governing organs were identified as key actors and their roles in the process were defined in detail. The resulting workflow mirrors the unique situation that defines a multicampus faculty with educational programmes implemented on more than one campus at the same time.

Figure 3 summarizes the most significant tasks of each key actor involved in the new workflow-model.
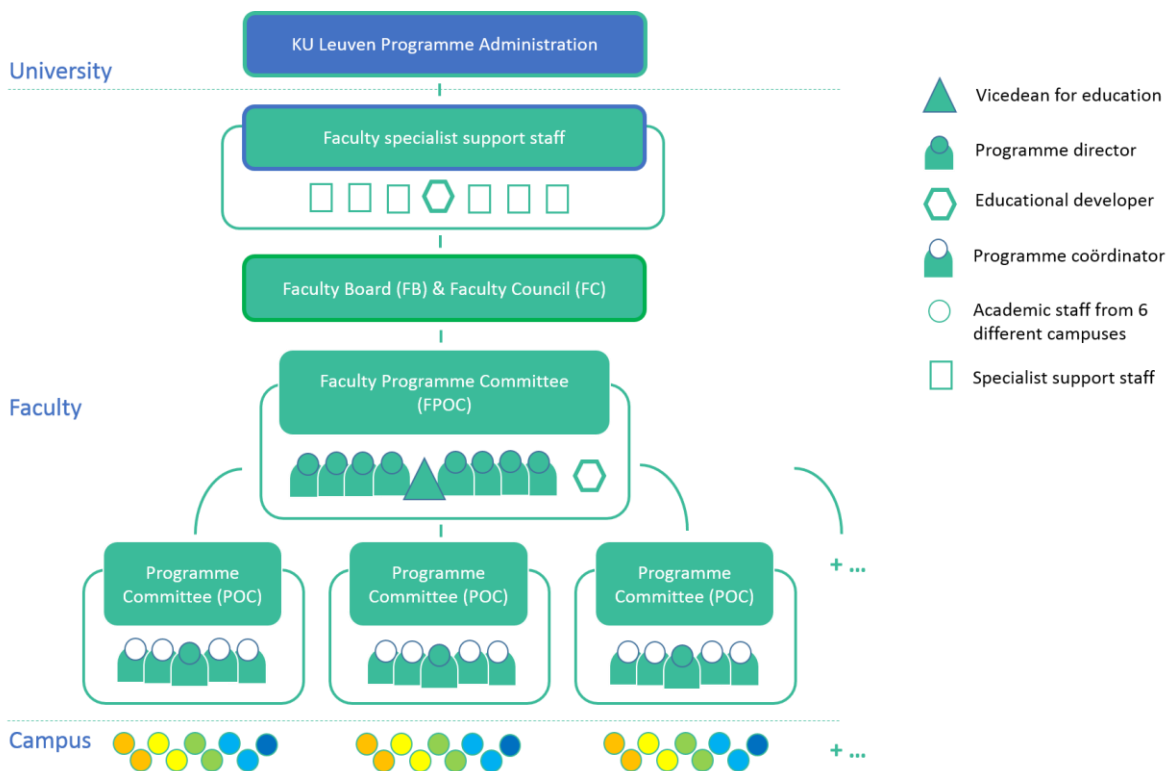

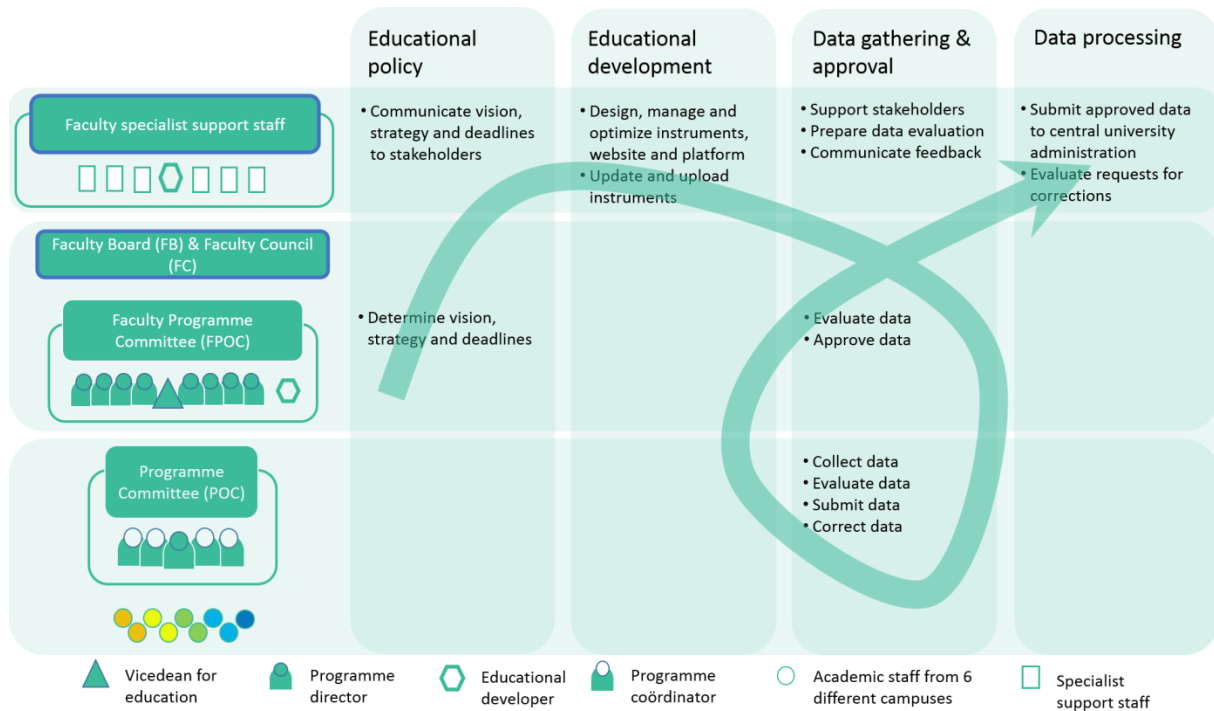*Fig. 2   Multicampus dataflow from Programme Committees till submission at the central university services*

Fig. 3   Summary of the general workflow-model for multicampus curriculum development

2   DEVELOPMENT AND IMPLEMENTATION OF THE PLATFORM

Taking into account the general recommendation to involve most – if not all – stakeholders during the development process of a new resource [2], all design steps were carefully monitored to ensure input from all stakeholders involved.

2.1 Structure and design of the platform

First, new instruments to gather curricular changes were designed by a group of specialist support staff, with representatives from each campus. Based on their extended expertise in curriculum development, the most relevant data to be included were defined. The instruments included different document types with detailed information on programme curricula (eg. course content information and its evaluation), as well as programme learning objectives and admission requirements.

The functionality of tables was determined by organizational and curricular needs, as expressed by both support staff and Programme Directors. Then, in order to engage all faculty staff members, the database instruments were repeatedly checked during several feedback loops with all stakeholders, and appropriate alterations were made before the instruments were finalized.

The online content management system was chosen based on the need to allow large amounts of information to be edited and revised by staff members working in a multicampus environment [3,6]. The Microsoft SharePoint©-software allowed the translation of all administrative steps into a transparent management platform, reducing confusion and redundancy. Navigation within the platform was designed to match the flow of documents though the faculty governing bodies, allowing any faculty staff member to consult the real-time status of each document at any time during the process.

Collaboration among staff members was facilitated by the activation of version history of documents to enable simultaneous adaptations of the same document by multiple

staff members. Communication between stakeholders was stimulated by the organization of document groups according to Programme Committees, in order to prepare their analysis in the next Committee meeting. All faculty staff members were able to consult the documentation on the platform, and to follow the progress of the documents through the navigation structure of the platform.

2.2 Implementation and evaluation of the process

The platform was implemented simultaneously on all campuses of the faculty in September 2014. Online guidelines and instructions were published on the faculty website to support all stakeholders in the use of the instruments and the online platform.

The preparation, development and implementation of the new platform was guided by the faculty educational developer who alternately acted as consultant, facilitator, change manager and coordinator [5]. As the intermediary between Programme Committees, specialist support staff and the central university services, the faculty educational developer was able to develop a coherent management system involving all stakeholders. At the same time, this enabled the faculty educational developer to provide organizational support to strengthen transparency, technological support to help simultaneous multicampus collaboration, and quality assurance support to optimize data management.

During the first year of implementation, feedback was received from several stakeholders via email and oral communication. Amongst the most mentioned advantages were the enhanced ability for stakeholders to access curricular data from different campuses, the improved collaboration possibilities and the clearer communication of workflow and process steps. The disadvantages that were recorded were mainly due to the adaptation to a new online platform and new data recollection instruments and are expected to decrease through time. However, after the second year of implementation, a structural questionnaire is planned to thoroughly evaluate all aspects involved in the implementation of the new process.

3   CONCLUSIONS AND FUTURE PERSPECTIVES

The new online platform for curriculum development was successfully implemented in September 2014 at the new established multicampus Faculty of Engineering Technology at KU Leuven. Guided by the faculty educational developer, the design of the platform allowed both the technical and organizational support to facilitate collaboration and communication among staff members and to enhance transparency during the multiregional information flow before submitting data at the central university services.

The new platform is currently designed as an educational administration tool in order to address the most urgent bottlenecks associated with curriculum development and renewal at a multicampus faculty. However, this may be the first step towards a faculty-driven data-informed curriculum development support system. Such a knowledge management platform would allow Programme Committees to transform data and curriculum information into knowledge and action [7,8,9].

The pathway towards the future broadening of the platform towards a data-driven knowledge management system is conditioned by several factors. First, it depends on the ability of faculty staff to develop a significantly broader skill set and knowledge base than has traditionally been the case. One of the skills they will need additional support for, particularly as they work in a multicampus faculty, is to work in teams.

Second, this implies that curricula are to be assessed by a continuous process, in opposition to the curriculum renewal efforts involving episodic attempts to develop curricula. And last but not least, all this in turn has implications for the training, development, and resourcing of educational development professionals, implying that institutions must continue to invest in their faculty development offices and ensure that their educational developers are prepared to support faculty development and curricular assessment and development activities [4]. Further investigation is needed to know how to successfully enhance this evolution at the multicampus Faculty of Engineering Technology at KU Leuven.

4 ACKNOWLEDGMENTS

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