

Bottom-up curriculum innovation through grants for lecturers

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Abstract

The aim of this case study is to evaluate the bottom-up approach of curriculum innovation in higher education through the implementation of Teaching Innovation Grants (TIGs). Through the TIGs, lecturers were granted hours to innovate their course. Of the 81 applications, 52 were granted. The TIGs were implemented in BSc and MSc courses on topics in economics and business. Each grant touched upon one or more of the educational themes - (1) internationalization, diversity & inclusion, (2) ethics, responsibility & sustainability, (3) digital business & data science, (4) employability, and (5) active & blended learning – the faculty board has formulated as ambitions for improving and renewing what and how we teach in our degree programs. Overall, the TIGs has facilitated lecturers in innovating their teaching. They perceived the workload as manageable, but intensive. Support by teaching assistants and/or educationalist was an important factor for a successful implementation.

Keywords: Curriculum innovation; higher education; teaching grants; bottom-up approach.

1. Introduction

A sound curriculum - set of courses - of a degree program ensures that learners gain knowledge and skills they need to succeed in their future career. Currently, the tremendous advancement in science and technology and the economic and social changes, necessitates timely revision of a curriculum to avoid learners to gain obsolete knowledge and skills. Consequently, the curriculum has to change from time to time to achieve the current and future needs of a sector.

Curriculum innovation is a complex and multi-faceted endeavor. Several processes and procedures involved and issues of concern in managing curriculum innovation are known (Law, 2022). Furthermore, several internal and external factors cultivate innovations (Bajada et al., 2019). Combining a top-down strategy (e.g. emphasizing the operational aspects of the strategy, effective communication and consultation at all levels) with a bottom-up approach (e.g. initiatives led by lecturers) will likely lead to success (Lisewski, 2004; Zhu & Engels, 2014). As part of the bottom-up approach, for lecturers (1) involvement from the start of the curriculum innovation project, (2) time allocated for curriculum innovation, and (3) support by educationalists seem to be key factors for success (Cooper, 2017; Hurlimann et al., 2013; Kirkgöz, 2009; Law, 2022).

One bottom-up approach to stimulate and facilitate lecturers in developing and improving their teaching in higher education is by allocating time and creating support through teaching innovation grants (TIGs). Namely, each lecturer is an expert in their course and is in the best position to design and implement change to teaching and assessment. By providing a clear top-down strategy by the faculty board on its ambition for improving what and how to teach, lecturers are able to tailor-made this ambition for their own teaching practice.

The aim of this case study is to evaluate the effectivity of the bottom-up approach to foster educational innovation by using TIGs for lecturers. The procedure of the TIGs is described in section 2. The questions we want to answer are:

1. How many of the TIGs were received, approved, and implemented?
2. What are the characteristics of the implemented TIGs?
3. What is the outcome of the implemented curriculum innovation perceived by the lecturers?

2. Setting-up the Teaching Innovation Grants

2.1. Context

The curriculum innovation procedure took place at the Faculty of Economics and Business (FEB) of the University of Groningen, the Netherlands. FEB's educational portfolio consists

of four broad bachelor's degree programs, twelve specialized master's degree programs, and one research master program. Yearly, the total number of students is around 8000. In FEB's Strategic Plan 2021-2026, the faculty board has formulated ambitions for improving and renewing what and how we teach. They want to implement or strengthen the following educational themes in the degree programs: (1) internationalization, diversity & inclusion (ID&I), (2) ethics, responsibility & sustainability (ERS), (3) digital business & data science (DB&DS), (4) employability, and (5) active & blended learning. A projectteam of academic staff and educationalists was installed to manage this project. The project is financed by funds from the government. The outline of the project was communicated to all staff. For each degree program a curriculum working group (CWG) consisting of the program management and lecturers of that program, was installed to innovate the curriculum of their degree program and implement the above-mentioned themes according to the model described by Wolf (2007). Besides this top-down approach, bottom-up individual lectures could apply for a teaching grant if they wanted to innovate their course.

2.2. Teaching Innovation Grants: procedure

The *call for proposal* for a Teaching Innovation Grant (TIG) was published on January 6th, 2021 on the website of FEB and send by email to all program directors. The proposal should (1) consist of a concrete improvement in teaching or assessment of a course; the improvements should relate to changes in teaching and assessment methods, or topics prioritised in the Strategic Plan (see above), (2) be for innovative ideas beyond regular course maintenance and updates, that require a more substantive time investment than a change such as introducing a new textbook, (3) introduce an improvement that can be sustained after the initial time investment, and (4) envisage concrete improvements in learning outcomes that will be evaluated. A requirement for submitting a proposal was that it had been discussed with the relevant program director and that the applicant would evaluate and report on the implementation of the proposed change. The number of hours allocated for an approved proposal was 50 hours for the applicant (with the possibility for more if necessary). The deadline for submission of the proposals was March 1, 2021. The decision was published before March 31st 2021, so that approved grants could be implemented in the hours allocated for regular teaching for the academic year 2021-2022.

The *evaluation process of the proposals* consisted of the following steps: (1) Two project members, one staff member and one educationalist, read and evaluated each proposal individually. The evaluation consisted of pass or not pass on the four criteria (a concrete improvement, a substantive time investment, a sustainable plan, and a change that can be evaluated), its link with the Strategic Plan's topics, and the overall quality. All submitted proposals were divided between three staff members and two educationalists; (2) the final recommendation to award a grant was made together by one staff member and one educationalist; they checked all proposal assessments to guard consistency; (3) the steering

group of the curriculum innovation project had to approve the recommendations; (4) as a final step, all applicants were notified about the final decision. During the evaluation process, the project team concluded that there was substantial variation in the substantiveness, with some proposals requiring considerably greater time investment than others, but several of the smaller proposals would still be very worthwhile. As a consequence, the final recommendations could be a) award of a full grant (50 hours or more), b) award of a small grant (25 hours), c) revise or d) decline.

During *the implementation* of the TIGs in the academic year 2021-2022 (as of September 2021), support was offered by educationalists. An evaluation form was sent out to the lecturers who received a TIG after the implementation of the innovation (see section 3).

3. Methodology

This paper presents the results of the TIGs implemented in the academic year 2021-2022 from the call of proposals to the evaluation of implemented granted TIGs as a case study. To describe the characteristics of the approved TIGs, all information, such as in which degree program the innovation took place, which educational themes of the strategic plan were addressed, and amount of granted hours, were analyzed. The lecturers filled out an evaluation form consisting of open questions: questions (1) whether they were successful in implementing the change or whether they need to make adjustments, (2) what the impact of the improvement was, (3) whether the workload was manageable, and (4) what they have learned from potentials and pitfalls of the innovation, whether they will keep it next year, and what advice they could provide to colleagues. These qualitative data were analyzed and repeated elements in answers of different questions were grouped and extracted from the data. The presented results are grouped by educational theme.

4. Teaching Innovation Grants

4.1. Call for proposals

A total of 81 proposals were received. On March 15 all individuals who submitted one or more proposals were notified about the recommendation including a brief motivation by the project team. Those who we recommended for a small grant were asked whether they would carry out their project with the smaller number of hours and all agreed. Those who we declined were offered the opportunity for further communications on their proposal. Of those 81, the project group proposed granting 52 proposals for a total of 2345 hours. This is about 10% of all courses and 0.3% of the total number of FTE of academic staff at FEB. The granted hours per TIG was 25 (n=13), 50 (n=37), 80 (n=1), and 90 (n=1) hours. The steering group agreed to this proposal.

4.2. Characteristics of the granted TIGs.

Of the 52 TIGs that were granted, 25 concerned BSc courses and 27 concerned MSc courses (Table 1). All the BSc degree programs contained courses that were granted a TIG, of the MSc degree programs, only the research master and one regular economic-related master degree program did not have courses that were granted a TIG. The BSc Business Administration had the most TIGs (n=12). The implementation of the TIGs took place in semester 1 (n=33) and semester 2 (n=19).

Table 1. Level and topics (business or economics) of the degree programs the courses of the TIGs were implemented.

level	Economics (n)	Business (n)	Total (n)
Bachelor	10	15	25
Master	8	19	27

The distribution of the TIGs among the five educational themes are listed in Table 2. Multiple themes could be addressed in one TIG. In case of addressing multiple educational themes in one TIG, it mostly was a combination of active & blended learning with another theme.

Table 2. The distribution of the implemented TIGs among the five educational themes.

Educational themes	n
Internationalization, diversity & inclusion (ID&I)	5
Ethics, responsibility & sustainability (ERS)	4
Digital business & data science (DB&DS)	6
Employability	9
Active & blended learning	30

4.3. Evaluation

Of the 52 grants, two grants were returned by the applicant and five grants were delayed due to organizational or personal reasons.

Five TIGs on *internationalization, diversity & inclusion (ID&I)* were implemented, except for one. One of the implemented TIGs combined this topic with employability. In two of the TIGs, the tool CATME was implemented to support group formation. Both lecturers stated that the initial investment to get to know CATME is considerable. One lecturer plans to use the tool in the future, because CATME offered very useful insights about the interaction between the team members and team satisfaction. In the other course, the lecturer is still in

doubt of using the tool again, since it is extra work, and the advantage is hard to measure. In another course an assignment on deep democracy was implemented. The lecturer learned that students do have an interest to learn about diversity and inclusion. As the lecturer has left and the costs of execution are high, the assignment will not be adopted structurally. In the fourth TIG, the implementation was more focussed on using cases to bring ‘practice’ closer to students in a group assignment.

Only four TIGs included the theme *Ethics, responsibility & sustainability* (ERS). Three of the TIGs combined this with active & blended learning, and one was combined with the themes employability and DB&DS. Looking at the evaluation of these TIGs, actually only one of these TIGs really focused on developing content on sustainability within a course. This course was changed considerably adding new video content and a practice-oriented ‘free’ assignment (output could be e.g. a podcast, video, report, etc). The staff member involved was very pleased with the results indicating that sustainability was integrated in much greater depth.

TIGs in the theme *Digital business & data science* (DB&DS) implement one or both of the following types of innovations: (1) providing students with more interactive tools, to enhance their ability to practice and learn material outside the classroom, e.g. use SOWISO to generate practice material for mathematics and statistics (all TIGs), and (2) have students engage with new tools to strengthen their digital competencies, e.g. use Python to do optimizations (three TIGs). In terms of implementation, a common theme is the setup costs of many of these tools, e.g. developing tips for every question in a course or developing new quizzes and in some cases, the technical aspects were a barrier.

Nine TIGs related to *employability*. These TIGs address: (1) introduction of tools and training for employability skills, and (2) development of material to bring “business life” into the classroom. Both types of projects benefit from the use of videos, for example as a way to provide information about different skills, to enable peer review of presentation skills, or as a way to show how processes work in a business. The evaluations of the TIGs relating to employability skills are positive about the TEL-tools that are used. Due to changes in available budgets, one tool will not be used further, for another tool technical problems need to be resolved for using it next edition of the course. Interestingly, two TIGs that were implemented in courses of the same program intentionally addressing a different skill, resulted in a optimal program-level alignment.

Of the 30 executed TIGs related to the theme *active & blended learning*, 22 were on active learning only, the other combined active learning with employability (3), ERS (3), or DB&DS (2). 23 of the 30 TIGs were implemented as planned, seven TIGs were partly implemented due to COVID measures (3) or changing insights (4). The plans to implement active and blended learning improvements were very diverse, e.g. using technology-

enhanced learning (TEL) tools, flipped classrooms with knowledge clips, team assignments, weekly quizzes, and interactive tutorials. In all TIGs students were more engaged (e.g., watched video lectures to learn content before plenary session, SOWISO), active (e.g., asked more questions, weekly quizzes), and interactive (e.g., giving peer feedback using FeedbackFruits, working in teams on cases or assignments, discussions in Q&A sessions/lectures).

Overall, most lecturers stated that the newly developed tools/assignments/teaching methods will be kept and improved if applicable. The workload of the innovations varied from manageable to manageable due to support of colleagues, teaching assistants or educationalists.

5. Discussion and Conclusion

The aim of this paper is to evaluate the bottom-up curriculum innovation through the implementation of Teaching Innovation Grants (TIGs). The TIG scheme has stimulated and facilitated lecturers in developing and improving their teaching and implementing the faculty board's ambitions for improving and renewing what and how we teach through five educational themes. Of the 81 applications, 52 were granted, but due to organizational or personal circumstances two grants were not executed and five were delayed. The implementation took place in BSc as well as MSc courses of different degree programs. Each grant touched upon one or more of the educational themes. Lecturers perceived the workload as manageable but intensive. Support by teaching assistants and/or educationalist was an important factor for success. Both factors have also previously be shown to contribute to the success of curriculum innovation (Cooper, 2017; Hurlimann et al., 2013).

Due to the success of this first round and to further implement the educational themes in our degree programs, we continued with granting TIGs in the following academic year. Again, allocating time for lecturers and support by educationalist and/or teaching assistants will be offered to contribute to its success. Based on the experiences in the first round, applicants will be advised about the good practices as well as potential pitfalls through a repository that will be developed of the first TIGs to share experiences. This repository will contain information about e.g. the type of curriculum innovation, the link to the educational themes, and how it was implemented. This will allow other lecturers to find specific types of newly-developed teaching practices to be used in their own courses.

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