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Supporting Teaching Staff: A Phenomenological Study Of The Innovation Readiness Of Teacher Support Staff

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Supporting Innovation in Higher Education: How Higher Education Can Support Innovative Teaching Practices

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ABSTRACT

Educational institutions that want to successfully innovate regarding the education they provide must synchronise organisational growth with educational growth. To support such innovation, a maturity model can help identify successful teaching and learning practices by encouraging experimentation, collaboration and alignment with strategic goals. Although maturity models that support staff in the process of innovating education are valuable, they are scarce. This phenomenological study explored the views of staff from the Centre for Expertise in Learning and Teaching (CELT) on readiness for innovation at the University of Twente (UT). We surveyed staff members who were actively involved in projects or teacher initiatives aimed at educational innovation. The questionnaire consisted of 137 closed-ended multiple-choice questions (e.g. 'Is teaching support guided by the latest research findings?') and answers on a five-point scale ('Not', 'Partly', 'Largely', 'Fully' and 'Don't know'). The survey's structure was based on that of the maturity model. The questions were divided into five categories of processes: learning (directly affecting pedagogy), development (related to the creation and maintenance of resources), support (related to support and operational management), evaluation (related to evaluation and quality control throughout its lifecycle) and organisation (related to institutional planning and management). After the survey results were analysed, respondents were invited to reflect on its outcomes, share their insights and suggest possible explanations for the results. In this paper, we present the educational support staff's maturity model results

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and discuss how these results can influence the effects of teachers' innovative practices.

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1 INTRODUCTION

1.1 Innovation in Higher Education

This study examines how an innovative educational approach maturity model can be used effectively to not only help higher education institutions (HEIs) innovate regarding their teaching practices, but also to provide a framework enabling staff professional development. This model can help staff identify areas needing improvements and provide guidance on where and how to implement improvements within an organisation's larger context to achieve maximum effect (Chapel, DePryck, and Buunk 2022). This paper presents new research data and insights which can help improve the maturity model, making it valuable to teaching staff who want to increase educational innovation. In recent years, challenges posed by rapid changes to educational approaches and the need for future-proof education have become increasingly apparent. In response, HEIs worldwide have sought to improve their teaching practices through innovation. Despite their efforts, many HEIs struggle to identify effective strategies for making these changes. This article presents the challenge-based learning (CBL) maturity model developed specifically for HEI support and teaching staff who want to innovate in education (Chan et al. 2017; Jiang et al. 2020; Snow Andrade 2020). This tool enables HEI staff to assess current innovations and identify areas for potential innovation in teaching practices. The tool can also guide teachers' development by helping them understand how the educational process contributes to educational innovation. The model focuses on the quality of five main processes essential to success: learning, development, support, evaluation, and organisation (Figure 1).

Learning	**Processess that directly iimpact the pedagogical aspect of the innovative educational approach** *This process deals with the core aspect of education, the acquisition of knowledge, skills, and attitudes. The primary focus is on innovatieve aspects of the curriculum and the desired learning outcomes*
Development	**Processess surrounding the creation and maintenance of resources for innovating education** *This process involves learning and support of the teaching staff, infrastructure, and facilities required for delivering quality education.*
Support	**Processess surrounding the support and operational management of the innovation** *This process involves the provision of support services to learners to ensure their holistic development such as health counseling and career guidance.*
Evaluation	**Processess surrounding the evaluation and quality control of the innovation** *This process involves the continuous monitoring and evaluation of the education delivery process of the innovative approach, such as curriculum evaluation, teacher evaluation, and learner assessment.*
Organisation	**Processess associated with institutional planning and management** *This process involves the management and administration of the institution such as governance, finance, and resource allocation.*

Figure 1. The five process areas that facilitate the delivery of education (Marshall, 2007).

Based on an extensive literature review, we identified the 35 sub-processes necessary for successful innovation in education, which were divided into practices. The CBL

maturity model can be divided into three main levels: organisational, programme and course (Chapel and DePryck 2022).

1.2 Maturity Model to Support Innovation

HEIs are expected to deliver effective, high-quality education (Avvisati, Jacotin, en Vincent-Lancrin 2014; Biggs en Tang 2011). Their effectiveness depends not only on the quality of their teaching staff, but also on various processes that facilitate the delivery of education (Chapel et al. 2022; Marshall 2007)). By breaking down complex educational systems into related process areas that can be examined independently, staff can independently use the CBL maturity model to evaluate the effectiveness of planned innovation after readiness has been identified at the institutional level. For example, if the item 'Teaching staff are recognised and rewarded for their engagement with innovation' is answered on the institutional level using 'Not', this provides teaching staff with a valuable starting point for assessing the feasibility of their innovation ideas and informing their decisions on moving forward. Research has found that maturity models can be powerful tools for making meaningful change in education (Tocto-Cano e.a. 2020). In addition, these models encourage teachers to become more reflective practitioners by motivating them to consider the larger implications of their decisions when introducing new practices into their teaching curricula (Demir en Kocabaş 2010; Gunsberg e.a. 2018). However, despite the potential benefits, there are still challenges associated with successfully applying these models within HEIs (Eden et al. 2016).

1.3 Supporting Innovation

Because the University of Twente (UT) wants to prepare students to obtain knowledge outside their own fields of study and take into consideration the societal effects of their actions, it has for many years used a project-based education called the Twente Onderwijs Model (TOM) as the main educational approach for all bachelor's programmes. UT has also used CBL initiatives in the past. By running CBL pilots, ECIU University[2] has played an important role in implementing CBL within UT (Chapel et al. 2022).. Thus, to identify and analyse the readiness of educational support for CBL innovation, Marshall's e-learning Maturity Model was adjusted into a maturity model for CBL. Notably, this adjusted model is not limited to use with CBL, but can be used with any innovative approach to education.

1.4 Centre of Expertise in Learning and Teaching

The Centre for Expertise in Learning and Teaching (CELT)[3] is an academic department within UT that plays an important role in enhancing students' educational experiences by supporting and guiding teaching staff. CELT provides teaching staff with various services, including help designing courses and modules, accreditation of programmes, professional development opportunities and new educational approaches to teaching practice. For instance, UT's strategic plan, Shaping 2030, introduces CBL's role in UT's education and encourages teachers to experiment with

[2] https://www.eciu.eu/
[3] https://www.utwente.nl/en/ces/celt/

it, with the ultimate aim of positioning UT staff as pioneers in innovative education in alignment with the university's mid-term to long-term goals. As a result, CELT has incorporated CBL expertise into its support services, providing CBL training opportunities and assigning educational advisors with specialised CBL knowledge.

2 METHODOLOGY

2.1 Questionnaire

This article presents a phenomenological research study exploring the perspectives of CELT staff regarding UT's readiness for innovation. Although phenomenological research may not typically produce generalisable findings, it can provide insights that help identify and understand a particular topic (Dukes 1984; Sloan en Bowe 2014). Respondents were asked to complete a questionnaire consisting of 138 closed-ended multiple-choice questions, their answers to which indicated the extent of their agreement with a series of statements. The answer choices, based on a five-point scale, included 'Not', 'Partly', 'Largely', 'Fully' and 'Don't know'. The survey questions were categorised according to the five main areas of the CBL maturity model and did not allow for elaboration or comment. The responses were analysed to identify patterns, trends and key themes. After these were identified, the descriptive analysis of the results was shared with the respondents, who were individually asked to verbally reflect on them. Reflection prompts were used to scaffold the responses. The analysis of these results focused on identifying similarities and differences in the respondents' experiences and perceptions of the phenomenon, as well as the underlying themes or patterns reflected in audio notes of their responses

2.2 Problem Statement

The pilot test of the CBL maturity model tool made evident that there were considerable differences in the ratings provided by support staff (i.e. at the institutional level). This raised concerns about a lack of clarity or consensus regarding the support systems available to teaching staff who want to innovate their practices. This study aimed to increase the understanding of these discrepancies and the reasons behind them.

3 RESULTS

3.1 Descriptive Analysis

The CBL maturity model instrument was filled out by four CELT members who were involved in the implementation of CBL at UT (see Table 1 for their roles and years of experience).

***Table** 1. Job Function and Experience of Respondents*

Role within CELT		Experience (years)
R1	Coordinator Teacher Professional Development	25
R2	Coordinator Senior Teaching Qualification	30
R3	Challenge-based Learning Expert	10
R4	Challenge-based Learning Expert	2

Of the four, R3 and R4 were closely involved with CBL initiatives, while R1 and R2 had a more generic overview of them. The main process scale included subprocesses of the main processes that had Cronbach's alpha values $\geq$ 0.7 (75 items) (Table 2).

***Table 2.** Cronbach´s Alpha Main Processes*

	Cronbach´s Alpha	N	M	SD
Development	0.984	37	41.5	31.0
Learning	0.895	8	12.3	5.9
Support	0.943	10	14.5	8.7
Evaluation	0.957	13	13.8	12.3
Organisation	0.917	7	6.0	5.8

The option 'Don't know' was the one most selected by respondents, followed by 'Not', and together these two accounted for more than 50% of the responses for each process. As Figure 2 shows, when the responses 'Don't know' and 'Not' were combined, there was a significant difference between R1, R2 and R3 on one hand and R4 on the other.

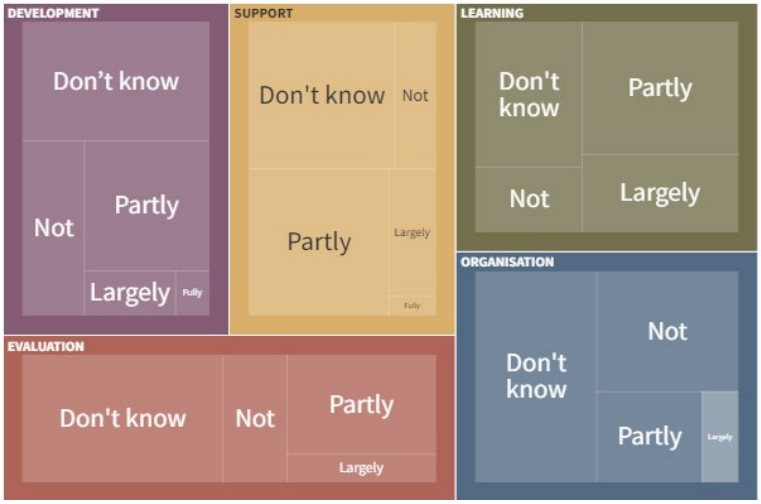

Figure 2. Ratio of answer options.

Most 'Don't know' and 'Not' items were related to finance or policy. Figure 3 shows four items, which were scored as R1, R2 and R3 = 'Don't know' and R4 = 'Not'.

***Figure 3**. Items related to the process organisation: above-average answer 'Don't know'.*

1. *Information on the effectiveness of design and development support guides the strategic and operational planning of CBL.*
2. *The effect of design and development support guides the allocation of resources for support. '*
3. *Information from CBL reviews guides CBL initiative planning.*
4. *Risk assessments of failed CBL initiatives are formally reviewed to identify factors to include in the risk analysis and mitigation plans of existing and future CBL initiatives.*

Figure 4 shows items that the respondents seemed to agree on and for which the results showed an above-average readiness (R1, R2 and R3 = 'Partly' and R4 = 'Largely') and that mainly questioned the pedagogical support and resources available to the teaching staff.

1. *Teaching staff are provided with information on how CBL pedagogy support a range of student cognitive outcomes.*
2. *CBL design and (re)development procedures include assistance for teaching staff in changing pedagogies.*
3. *Teaching staff are provided with support resources (including training, guidelines, and examples) on how to assist students in developing skills.*

Figure 4. Items with above-average readiness.

3.2 Respondents' Reflections

In their verbal reflections, the respondents were asked to provide insights into the trends of the analysis. R1 and R3 submitted their reflections, which showed that support for CBL was just beginning when the surveys were completed and the educational approach was relatively new to HEI. They noted that a lack of both knowledge of the approach and visibility of available support structures contributed to the high rate of 'Don't know' responses. R1 explained that while support was available, it was not centralised, and information was not readily available. R3 confirmed that support was not visible and information not structured. Thus, the respondents stressed the need to rethink the way in which innovation support is provided, including the professionalisation of the support staff itself and the acquisition of knowledge to address the complexity of education. Furthermore, R1 noted that the 'Don't know' and 'Not' answers were guided by a lack of both awareness of policy developments and a clear vision regarding educational innovation. According to R1, support would have been more systematic and clearly organised if there had been better understanding of who had the power to make decisions. In addition, R3 reflected on the message that CELT conveys when it presents support staff as advisers: "*As an advisor, you tell [teachers] what to do, but they don't need advice, they need someone who stands beside them*'. R3 suggested that teachers must be more engaged and encouraged to drive innovation themselves while having the ability to access continuous hands-on support for innovating their practices. Lastly, R1 expressed the belief that CELT plays a critical role in providing inspiration, co-creation and feedback that promotes evidence-informed educational innovation. R1 emphasised that the support department should be involved in policy development and defining a clear university-wide vision to guide support offerings.

CONCLUSION

This paper provides a comprehensive analysis of the responses from educational support staff at UT, using the CBL maturity model instrument, to assess UT's

institutional readiness for educational innovation. It also examines the current manifestation of support structures within the institution and discusses potential improvements for more effective scaffolding of educational innovation.This study highlighted a significant challenge faced by support structures when introducing educational innovation approaches like CBL into higher education practices - a lack of awareness and visibility. To address this issue, several key recommendations are proposed.Firstly, it is crucial to allocate sufficient time and opportunities for educational support staff to acquire the necessary knowledge and skills to navigate the complexities associated with introducing new elements into education. Continuous professional development should be prioritized to ensure support staff are equipped to effectively support educational innovation.Secondly, establishing a clear connection between the educational support department and university policymakers can lead to a more systematic and organized support structure. Such a connection would enhance the effectiveness and success of educational innovation initiatives by aligning the support provided with the strategic goals and vision of the university.Lastly, educational support staff must assume a crucial responsibility for promoting evidence-based educational innovation. They should actively participate in the development of policies and collaborate with stakeholders to define a shared vision that guides the university's support services. By doing so, support staff can provide inspiration, engage in co-creation, and offer valuable feedback, ultimately fostering a culture of evidence-based educational innovation.Implementing these recommendations will lead to improved support structures and enhance the effects of educational innovation on teaching staff. By providing a strong foundation of support, universities can effectively facilitate teaching staff in their pursuit of innovative practices.

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