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Professional Learning Communities in Higher Education: Investigating a Possible Introduction Among University Faculty

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Abstract: Moving from an approach of educating faculty about new teaching approaches, to supporting their efforts for paradigmatic changes in their teaching practices, this study explores the introduction of faculty Professional Learning Communities (fPLCs) as an innovative way to enhance instructors' teaching competencies in higher education. The study seeks to identify fPLCs structures that could encourage evidence-based teaching reform within the faculty members' teaching practice. Data were collected from 127 faculty using an online questionnaire, and a focus group with 6 different program coordinators from various academic departments. Analysis showed factors related to the willingness to engage in fPLCs and sources of information which participants highlighted as important in shaping their teaching reform. We discuss the implications of possible new directions of supporting faculty in their efforts to enhance their teaching competencies. Policy implications point to a novel approach to supporting faculty in their efforts to enhance their teaching competencies.

Introduction

For decades, professional development for teachers was based on models which normally involved an expert delivering information to teachers through lecture, seeking to influence their practice, while teachers had a rather passive role (Clarke & Hollingsworth, 2002). These models were widely criticized for failing to connect to the classroom context in which participants worked (Dorier & Maaß, 2012).

An alternative form of professional learning and development is Professional Learning Communities (PLCs), which provides teachers/instructors a framework in which they can act as "learners" and departments, schools, or institutions as "learning communities" (Clarke & Hollingsworth, 2002). In the context of PLCs, improving teachers' professional knowledge becomes a critical step for school transformation and for increasing the quality of an educational system (e.g., Bonsen, 2006; Ellerani & Gentile, 2013; Robinson, Hohepa & Lloyd, 2007; Scheerens, Glas & Thomas, 2003). PLCs have gained the attention of the research and teacher education community, and they have led to a paradigm shift in the professional learning and development of teachers (Vescio et al., 2008).

PLCs refer to small teams (communities) of teachers/instructors with shared interests and visions that meet regularly, exchange expertise, and work collaboratively with the goal of improving their teaching practice (Brookhart, 2009; Margalef & Roblin, 2016). Stoll et al. (2006) point to the fact that a PLC is "a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way; operating as a collective enterprise" (p. 223). In this sense, PLCs are viewed as continuously collaborating groups of like-minded colleagues, sharing and engaging together in the practice of learning for improvement in daily business, connected by similar values, opening up to one another trustfully about routines and obstacles, discussing openly and thus contributing to each colleague's concern (e.g., Stoll et al., 2006). In the context of PLCs, professional learning takes the form of an ongoing, sustained, intensive and collaborative approach to improving teachers'/instructors' effectiveness in raising student achievement (Slabine, 2011) and enhancing student learning experiences. This engagement provides teachers/instructors with opportunities to refine their content knowledge and teaching pedagogies and approaches, understand the need(s) to change, and helps them find ways to implement changes in their teaching that will help their students to learn more effectively (e.g., Fishman, Marx, Best & Tal, 2003; Loucks-Horsley et al., 2003).

Theoretical framework

The heart of PLCs is a data-driven process that includes systematic analysis and constructive critique of participants' own practice through reflective dialogue, investigation of teachers'/instructors' practice through observation, data analysis, joint planning, and curriculum development (Stoll et al., 2005). The literature has also highlighted five characteristics related to productive teacher/instructor PLCs (Bolam et al., 2005; Stoll et Earl, 2003): (i) sharing common values and vision, (ii) collective responsibility for student learning, (iii) reflection and

reflective professional examinations, (iv) individual and group professional learning and (v) supportive and shared leadership (Bolam et al., 2005; Hord, 1997).

Although a recently growing number of studies have investigated the use and function of PLCs at primary and secondary education levels, there is to date relatively little investigation of PLCs in higher education (e.g., Laws, 1996). Massy, Wilger, & Colbeck (1994) found collegiality to be "hollowed" within university departments, with the notion of the community usually being absent from meetings, curricular planning, and pedagogical work. Despite that, Cox (2004) indicates that faculty PLCs can play an important role in faculty development with evidence suggesting that both student and faculty learning is improved through this process. While the need to identify productive ways within PLCs with which faculty can sustain long-term pedagogical changes in their teaching approaches through a learning community experience is of high interest (Cox, 2004; Richlin & Cox, 2004), there is to date very little evidence whether these changes are sustained or can be sustainable beyond the faculty participation in PLCs (Tinnell, Ralston, Tretter & Mills, 2019).

A faculty PLC is usually a group of interdisciplinary faculty members (the number of members could vary between 6 and 15), who engage in active, intensive, collaborative work of significant duration (Cox, 2003). Because of that, PLCs might play an important role in higher education since the nature and structures of higher education institutions are more likely to "push" faculty towards isolated teaching practice.

Faculty PLCs as well as professional growth within faculty PLCs are playing an increasingly important role in higher education, connecting faculty with their students and colleagues (Cox, 2001), and placing an emphasis on evidence-based changes in teaching (Ralston, Tretter, & Kendall-Brown, 2017). Despite the growing interest in higher education student learning outcomes and innovative approaches to teaching (Terry, Zafonte, & Elliott, 2018), this growth has been slow, and there are many obstacles to implementation (Alles et al. 2019; Hargreaves 2007; Palmer, 2002), including increased initial time investment (Roth, 2014). Creating faculty PLCs could constitute one approach to engaging the faculty community in the cause of student and faculty learning (Cox, 2004).

Faculty PLCs may address the teaching, learning, and developmental needs of a particular faculty group or may address special campus-wide teaching and learning needs, issues, or opportunities (Cox, 2004). Examples of this need have emerged on large scale during the covid-19 pandemic, during which higher education institutions needed to adapt rapidly, transfer all teaching activities online, and maintain a high rate of student engagement throughout campuses (Authors, 2021). In a sense, in many Universities around the world, the only way this could happen was to base efforts on peer support and development (beyond issues of technological availabilities). Research (e.g., Cox, 2001; 2003; 2004; Roth, 2014; Stacey & Mackey, 2009) identified a number of important benefits of participation in faculty PLCs: an increase in instructor's motivation, an increase in faculty interest and confidence in teaching, development of inter-instructor relationships and increased collaboration among colleagues even outside of one's own discipline, reduced instructor burnout, foster improvements in teaching practices and innovation in teaching, supported instructors' better understanding of personal teaching philosophy less lecturing time, and more engaging students in active encourage active, learner-centered, multidisciplinary approaches to teaching.

Purpose and Research Questions

In an effort to contribute to the investigation of the characteristics of faculty PLCs in higher education, as part of a two-year research project, this empirical study explores the potential introduction of faculty PLCs as an innovative way to enhance instructors' teaching competencies. The current study focuses on a "young" private university in XXX which informally introduced PLCs in the past 6 years and now attempts to formalize this mode of Professional Development for its faculty. Within this context, our purpose in this paper focuses on identifying faculty PLCs' structures that could encourage the long-term sustainability of evidence-based teaching reform in faculty members' teaching practice. Data were collected as part of a funded project which aimed to investigate the characteristics of productive and sustainable faculty PLCs. Toward this end, the study seeks to answer the following two research questions:

- Which factors are related to the faculty's willingness to engage in PLCs?
- Which sources of information are considered important in shaping their teaching?

Methods, data sources & analyses

Data were collected at the end of the Spring semester of 2022 through an online questionnaire. Working from the literature on PLCs and faculty PLCs, we identified a number of main themes related to the ways that are supportive of the productive work of PLCs, as well as aspects that may encourage or discourage faculty to participate in long-term changes in their teaching competencies. Based on those themes and aspects, and adapting a number of similar

approaches in the literature we developed a questionnaire consisting of 7 different sections: (1) collection of demographic data of participants; (2) investigation of participants' self-perceptions about their teaching abilities; (3) investigations of participants' sources of ideas for teaching innovation; (4) investigation of participants perceptions of incentives for teaching innovation within the context of the University; (5) investigation of participants' beliefs of the importance of teaching; (6) investigation of the participants' understanding of the definition and nature of teaching; and (7) investigation of the participants' views and experiences about professional work and development in the context of working with a group of colleagues. A copy of the questionnaire may be found here XXX. The questionnaire examined the current state of faculty PLCs at the University in order to identify good practices and needs for supporting and sustaining faculty PLCs as tools for professional learning, growth, and development.

The Office of the Vice-Rector of Research and External Affairs sent an invitation to all the full-time and part-time faculty (around 400) to participate in the survey. A total number of n = 127 full-time faculty and special teaching personnel, and part-time scientific collaborators and special scientists from all the Schools of the University responded to the invitation (response rate: 32%). The academic school distribution as well as the other characteristics of the sample are presented in Table 1 and were deemed satisfactory in order to provide useful insights into the attitudes and the way faculty felt about their involvement in PLCs.

Table 1
Respondent Characteristics

Variables	Categories	N	%
Academic School	Humanities, Social & Education Sciences	53	41.7
	Business	13	10.2
	Sciences	40	31.5
	Law	8	6.3
	Medicine	13	10.2
Gender	Female	69	54.8
	Male	57	45.2
Age	<30	3	2.4
	30-39	38	29.9
	40-49	51	40.2
	50-59	26	20.5
	≥60	9	7.1
Mode of employment	Full-time	75	60
	Part-time[1]	50	40
Teaching Experience in Higher Education (years)	0-4	27	22.1
	5-9	25	20.5
	10-14	27	22.1
	15-19	17	13.9
	≥20	26	21.3
I usually teach… (more than one choice may be given)	Undergraduate	103	
	MA	54	
	PhD	19	

Note: Inconsistent sample sizes across characteristics resulted from missing responses.
[1]Scientific collaborators and Special Scientists

After the analysis of the questionnaire data, a semi-structured focus group was conducted with 6 different program coordinators from various Departments, in order to probe in-depth into the results of the questionnaire. Questions used in the focus group were based on the results of the questionnaire as we present them below, seeking to further investigate the emerging themes.

Results

Analysis of the data indicated factors that relate to the faculty members' willingness to engage in PLCs as well as sources of information that participants in the survey highlighted as important in shaping their teaching. Factors that were related to the willingness to engage in PLCs were the following: (i) sharing teaching experiences with colleagues, (ii) gaining valuable information from hearing about colleagues' experiences, (iii) sharing experiences about student results, (iv) experimentation with new ideas, (v) meetings with colleagues (vi) reflecting with colleagues about common teaching issues, (vii) working in a small group of colleagues on improving teaching, (viii) reflecting on own teaching. Factor analysis indicated that 8 items included in the questionnaire loaded in one factor (see Table 2). Cronbach's Alpha reliability test also gave a good score (α =0.85).

Table 2
Factor analysis

	Items	Component 1
1.	sharing teaching experiences with colleagues	.552
2.	gaining valuable information from hearing about colleagues' experiences	.789
3.	sharing experiences about student results	.697
4.	experimentation with new ideas,	.761
5.	meetings with colleagues	.801
6.	reflecting with colleagues about common teaching issues	.804
7.	working with a small group of colleagues on improving teaching	.581
8.	reflecting on own teaching	.667

Further, a series of exploratory bivariate analyses were performed using gender, mode of employment (full-time or part-time faculty), rank, and the academic school that the participants belong to. The analysis showed that the demographic variables did not distinguish different modes of willingness (see Table 3). In effect, this possibly suggests that there was a uniform approach and positive willingness to engage in faculty PLCs. Interestingly, this willingness to engage in faculty PLCs did not relate to the workload of the teaching staff.

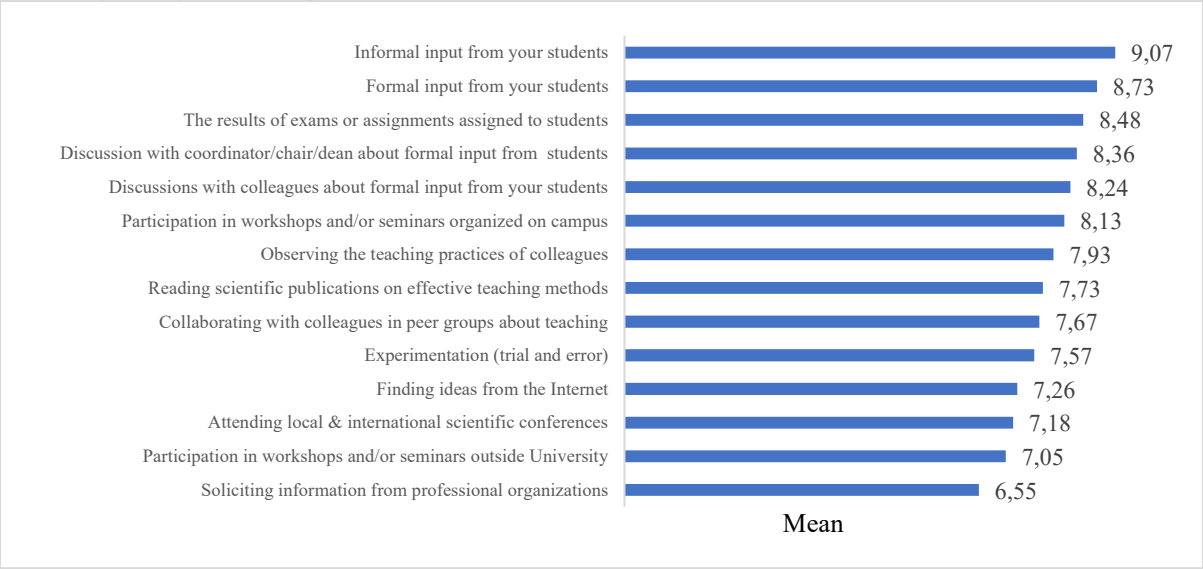
Table 3
Exploratory bivariate analyses

Variables	Categories	Mean	t	Sig
Gender	Male	31.72	-1.959	.053
	Female	33.28		
Rank	Full-time	33.48	1.755	.082
	Part-time	32.01		
			F	
School	Humanities, Social and Education Sciences	32.53	.725	.576
	Business	33.09		
	Sciences	32.30		
	Law	35.00		
	Medicine	31.77		

Other bivariate analyses showed that willingness to engage in PLCs was positively related to the importance of teaching $r(117) = .295$, $p = .001$. This possibly suggests that the participants who consider teaching to be important were willing to engage in PLCs. Attitudes toward excellence in teaching were marginally positively related $r(116) = .198$, $p = .033$ with the willingness to engage in PLCs.

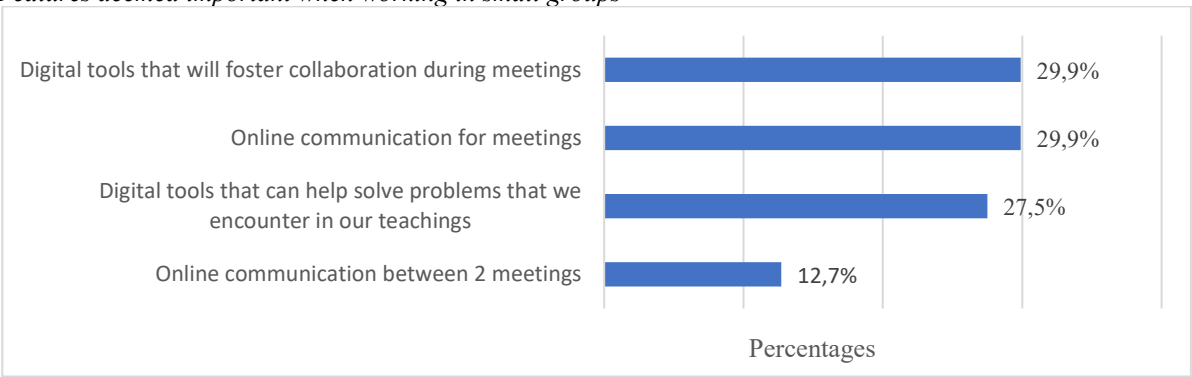
An important finding related to the sources of information that participants highlighted as important in shaping their teaching. These sources of information were ranked, and as Figure 1 shows, the most important ones were those related to both informal and formal feedback instructors get from their students, student learning results from exams and/or assignments, discussion of feedback from students with the program coordinator or the department chair and other colleagues, and participation in workshops and/or seminars. Figure 1 provides the rest of the sources of information that participants highlighted as important in shaping their teaching, which mostly originate from within their institution.

Figure 1
Sources of ideas for Teaching Innovation



Another interesting finding is related to aspects of learning that have developed during the covid-19 pandemic which participants indicated as important when working with a small group of colleagues for improving their teaching skills. These aspects were ranked, and Figure 2 shows the most important ones and include digital tools that may foster collaboration during faculty meetings, facilitate online (or hybrid) modes of meetings, and tools that can be used during teaching that may help or facilitate addressing problems during faculty teaching.

Figure 2
Features deemed important when working in small groups



Note: respondents were able to choose more than one option.

Finally, the participants suggested several thematic areas for faculty PLCs that would be of interest in the future. After we reviewed all the suggestions, we were able to group them into 4 main areas. Those were related to (i) pedagogical principles & methods of teaching (including inclusive learning & differentiation), (ii) digital tools & emerging new technologies for teaching & learning (including in-class activities for enhancing student engagement during lectures), (iii) evaluation and assessment strategies and approaches, and (iv) interactivity between the students, the instructor & the course materials.

Results related to faculty's willingness to engage in PLCs and the main sources of information supporting teaching innovation had some thematic similarities that we decided to follow up on them during a semi-structured focus group interview. Participants in the focus group interview suggested that productive faculty PLCs that would be based on faculty's suggested willingness to engage in PLCs using the sources of information for teaching innovation, should make sure that faculty working within faculty PLCs need to be (i) open to accept and implement new ideas for teaching and learning, (ii) ready to take teaching risks, but also highlighted that the participation in faculty PLCs needs to (iii) come from an internal, personal need for improvement and the

understanding that it is possible to bring change by collaborating with a group of colleagues. (iv) Commitment and dedication of faculty PLCs participants were also raised as important characteristics. The interview participants suggested that these four characteristics are important for working in faculty PLCs supporting faculty's willingness to be open and share, discuss and reflect upon their teaching experiences and their student result with faculty PLC colleagues and gain valuable information from hearing about colleagues' experiences. Interestingly, the interview participants highlighted the role of faculty PLCs' leadership that is directly related to the internal work of the PLCs. They seem to feel that for faculty, it is more important to have active PLC leadership within their PLCs in order to have a productive collaboration and coordination of the professional learning taking place in their PLCs, rather than have the general support of the University (e.g., at the level of rectorate) for working in such communities.

Discussion

Overall, the study revealed participating instructors' very positive inclination to engage in PLCs. Factors connected to that willingness were in line with the literature about important characteristics for productive instructors PLCs, related to e.g., having shared values and vision, adopting a collective responsibility for student learning, and actively and regularly engaging in individual and group professional learning (Bolam et al., 2005; Hord, 1997; Stoll et Earl, 2003; Vescio, Ross & Adams, 2008). Of course, it needs to be acknowledged that the lack of differentiation identified in the ways faculty responded to the questionnaire could be influenced by a self-selection bias of the people who have opted to participate in the study in the end.

An additional important finding relates to the ranking of the items identified by participants in the study as sources of information that shape their perceptions of teaching. These include among others informal input from students (such as informal discussions with students), formal input from students (including official course evaluations, and open-ended comments from students), exams and assignments results, and official engagement with supportive and shared leadership (Hord, 1997). The emphasis on student results and student opinions is also related to the idea of collective reflection and responsibility for student learning (Bolam et al., 2005). Taken all these together, and given the fact that there was no prior participation in formal faculty PLCs, we suggest that they highlight an important characteristic: participating instructors seem to feel that collaborative pedagogical reflection is valuable for their teaching duties, although prior research has suggested that the notion of community-wide collaboration is usually absent from higher education meetings, curricular planning, and pedagogical discussions (e.g., Massy, Wilger, & Colbeck, 1994). Of course, during the covid-19 pandemic, instructors at the university relied heavily on peer-driven professional development to overcome numerous difficulties connected to the imposed emergency remote teaching and the need to engage with their students in fully online learning environments (Authors, 2021), which may have contributed to the positive disposition towards collaborative pedagogical reflection.

At the same time, findings point to two useful resources, which characterize university faculty. The value placed by participants in student-related data could be the product of the fact that for an amount of their time, university faculty are also working as researchers, collecting, analyzing, and critically reflecting on the data that they collect. This practice maybe is seen as a productive resource for PLC-related work, providing instructors with a strong commitment to collecting data from their courses and reflecting on them as one of the drives toward pedagogical change. At the same time, the results we described highlight the potential role of faculty independence and autonomy in their teaching and research agenda and the supportive role that shared leadership (Hord, 1997) may have in enhancing both, which are fundamental characteristics in academia worldwide.

Taken all these together, our findings point towards new directions in faculty professional development, away from traditional approaches of lectures or seminars, focusing more on peer interaction and support, and student data focusing on learning outcomes aligned with the increasing research interest in the field (Terry, Zafonte, & Elliott, 2018). In a sense, engaging faculty in PLC practices may be a way of further empowering faculty in their working environment. At the same time, they point to a direction for further, more detailed investigations through more qualitative approaches to shed in-depth light on the issues that are related to the findings we have presented providing more evidence about the impact of faculty PLCs on higher education (Cox, 2004; Richlin & Cox, 2004; Tinnell, Ralston, Tretter & Mills, 2019).

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