What influences teachers to develop their pedagogical practice?

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Abstract— **This paper explores to what extent, and how, teachers applying for recognition as excellent teaching practitioners (ETP), express influence of significant others on their pedagogical practice, and how these influences relate to whether the teacher was successful in his/her application or not. The study was based on nineteen portfolios submitted for ETP in 2018 at the Faculty of Engineering (LTH) at Lund University. The portfolios suggest that teachers are primarily influenced by their academic peers and by student feedback. Secondary influencers are pedagogical training and scientific literature. The number of references given to significant others correlate strongly with the chances to be awarded ETP. We suggest that effective academic development and practice are favoured by rich social interactions informed by literature and student voices, benchmarked by stakeholders and facilitated by academic developers.**

Index Terms—education, higher, teaching.

I. INTRODUCTION

WHY DO academic teachers develop as teachers and develop their teaching? One explanation put forward focuses on the individual as a reflective practitioner [1] who develop because they actively seek out new aspects in phenomena they interact with as professionals. These new aspects are mostly assimilated into new ways of perceiving the world [2]. Although some teachers continue to develop in this way, others cease to develop. It is like they have found a recipe for teaching and therefore no longer reflects critically on teaching, while others continue to do so. On the other hand, [3] describes how young academics often develop quickly as teachers as they strive to create purposeful order within the classroom, but then stop when they have found a method that works. These teachers as it appears do not sustain a behaviour as reflective practitioners.

Another explanation put forward has a social foundation. [4, 5] have found that teachers have *significant networks* of trusted people with whom they talk privately about teaching. In these conversations, individual teachers are able to interpret things they perceive and construct and maintain their understanding of teaching and of themselves. These interactions the authors argue both support reflection and motivate further reflection on teaching.

But there are variations across individuals. For example, [6] have shown that expert teachers (those who are both good and experienced teachers) engage with their significant networks in a different way than experienced non-expert teachers (those who have not developed into good teachers despite their experience) and novice teachers. While novice and experienced non-expert teachers exchange information with their significant network, expert teachers talk more broadly about teaching with their significant networks. Expert teachers develop new things and they try out ideas collaboratively; expert teachers' conversations have an exploratory character.

Further more and continuing a focus on interactions, academic teachers are not only influenced by their interaction with other teachers. They constantly interact with students, stakeholders, scientific literature, and others inside and outside of the university. If teachers are open to accepting influence from many and diverse sources, one could expect this to be reflected in their approach to teaching and the way they develop as teachers. In order to find means to properly support a long-term development of academic teaching, it is important to develop a better understanding of why some teachers do develop, including how others influence them. We refer to these influential people as *significant others* and note that these people do not necessarily have to be fellow teachers.

The purpose of this paper is to develop our understanding of how academic teachers at the Faculty of Engineering at Lund University (LTH) identify and describe the people who are their significant others. We have analyzed pedagogical portfolios, submitted in applications for recognition as Excellent Teaching Practitioner (ETP) at LTH, in which the teachers describe how they have developed their teaching practice. We have also looked for any correlation between how rich a teacher's set of significant others is and if the application was approved.

There is no single ETP assessment criterium that explicitly states that a rich set of significant others is a merit. However, if we amalgamate the criteria a) to develop the pedagogic practice in a conscious and systematically way, b) develop the pedagogic practice to support student learning, and c) to interact with others, there is little doubt that traces of well-informed, collaborative teaching development would support an application.

II. ETP

ETP [7] is a reward for excellent teachers at The Faculty of Engineering at Lund University. Individual teachers submit a teaching portfolio, which, together with an inter-view is assessed against a set of criteria by three colleagues from

within the faculty that has already been rewarded. Teachers who pass the assessment are rewarded the title Excellent Teaching Practitioner, they receive a permanent raise in salary, and their department receives extra funding (funding allocated from the other departments).

III. METHOD

We analyzed all nineteen pedagogical portfolios submitted for assessment in 2018. For the analysis, we identified, classified, and counted indications (narratives) of significant others. The significant others within the teacher's own organization (internal) were classified as a) academics (e.g., colleagues, leaders at departmental, program directors, faculty or university levels), b) non-academic (e.g., academic developers, program directors), and c) students. Significant others from outside the teacher's own organization (external) are a) academic (e.g., personal contacts; publications), b) non-academic (e.g., academic developers, accreditation bodies), c) stakeholders (e.g., employers, organizations) as well as d) more vague references (e.g., "a friend"). Only statements showing that the influence led to an causal influence-to-action relationship affecting pedagogical practice were included; phrases such as "I found this paper very interesting", "this has developed by thinking" or "the students appreciated this change" were not, neither were multiple references to the same specific situation and influence. Each portfolio was analyzed twice.

It should be pointed out that the authors were not involved in the ETP process and had no prior knowledge of which applicants were awarded ETP prior to the analysis of the portfolios. The applicants were not aware of this study.

IV. RESULTS AND DISCUSSION

As shown in Table 1 (bottom row), teachers are primarily influenced by their academic peers and by student feedback. Secondary influencers are pedagogical training and scientific literature. Stakeholders and outsiders play a much more subdued role.

The number of significant others varies across the applicants. Typical quotes regarding academics (mostly colleagues) are "I made the revisions after a thorough discussion with N.N.", "I have engaged the other teachers in the course design" and "within the frame of a pedagogical course my colleague and I studied this problem more closely, leading to…". References to non-academics (mainly pedagogical courses) include "this course provided valuable guidance…" and "therefore I signed up for a course on the topic, during which…".

In general, student voices are abundant and are taken very seriously. They are collected in different ways, e.g. "when we discussed this in the classroom I realized that…", "the CEQ-data [student evaluation of teaching data] indicated a high workload, therefore we…" and "I decided to make this change based on a survey among the students". Hence, the data show that routinely collected data, personal experiences and targeted studies of student experiences could all be of significant value.

The external academics are mostly research papers: "We were guided by the research by N.N. (20XX)…" and "Using the SOLO-taxonomy we changed…". However, we see virtually only one example of a teachers that critically evaluates research papers or contrasts various perspectives or scientific pedagogical findings to shape a personal approach to the teaching practice.

There are strikingly few indications of influence by stakeholders, but the few quotes extracted are interesting: "At times, I have worked as a practitioner which have made me…", "I asked a practitioner to participate and give suggestions on how we could develop…" and "we engage many organizations to optimize our program". The few examples, given suggest that the stakeholders inform the content rather than the pedagogical practice. The influence does not appear to be so strong that the fundamentals of the pedagogical approach change.

Table I

Number and categorise of quotes regarding influence on pedagogic practice, as expressed in pedagogic portfolios submitted for applications for Excellent Teaching Practitioner at LTH in 2018.

Applicants	Internal significant others			External significant others				Total
	Academic	Non-academic	Students	Academic	Non-academic	Stake-holders	Other	
1				3				3
2	2			1				3
3	2			1				3
4	1	1				1		3
5		2	1	1				4
6	2		1	1				4
7	1		2	1				4
8		1	3					4
9	2	2	2					6
10	3		2	1				6
11	3	1	1			1		6
12	2	1	1	3				7
13	3	1	2	1		1		8
14	2	2	4	2				10
15	3	1	4	2				10
16	6	3	2	1				12
17	5	2	4	1		2		14
18	6	2	4	2		1		15
19	4	5	4	2	1		1	17
Total	47	24	37	23	1	6	1	139

On an individual basis, the number of significant others range from three to seventeen. The seven applicants approved for ETP are indicated with boldface numbers, i.e. applications denoted 9 and 14-19. It is obvious that the number of references to significant others in the portfolios correlate with approval for ETP. All applicant that were approved show a balance between various categories of significant others.

The results support the literature on significant networks [4, 5]. Close collaboration and informed discussions with colleagues within this sample are the most essential drivers for development and add qualities to a pedagogical portfolio. It is also clear from Table 1 that the students are influential. It is fair to say that student feedback is necessary but not sufficient for development.

The data in Table 1 suggest that some teachers that did not receive ETP appear to lack a rich significant network among their peers. In these cases, the significant others are limited to academic developers, students or publications. In isolation, neither of those suffice to transform information and ideas into sustainable pedagogic development.

This conclusion is consistent with the research on significant networks, as well as the academic development strategy at LTH. Regardless of whether or not we consider the benefits for the organization, the students, or the individual teacher, academic leaders must ensure that teachers have the opportunity to engage in informed pedagogical discussions in their workplace.

We also see that many teachers are influenced by research. The research either serves as a scientific justification for ideas that arise in other ways, or as a more general frameworks or platform (e.g. SOLO-taxonomy, constructive alignment). The latter are used to provide structure to changes in the teaching practice. It is evident from the portfolios analysed that the introductory pedagogical courses on teaching and learning are vital; this is where teachers develop a common pedagogical language and form attitudes that shape their identity as teachers. Consequently, such courses should be designed to emphasize and support pedagogical discussion with peers, students and stakeholder.

This study suggests that a diverse set of significant others is helpful, or at least clearly related to a being awarded ETP status. Furthermore, successful applications include examples of rather complex academic development cycles. Several portfolios included narratives such as: "After discussions among the teachers, we changed the course layout based on the theories by N.N. (20XX). After the course, the student feedback inspired us to check the relevance of the content with stakeholders, leading to additional revisions the next year. In this process we also engaged academic developers". Clearly such narratives are of follow a plan-do-study-act (PDSA) model, which is a common model in quality development.

V. CONCLUSIONS

In summary, the results reinforce the notion that effective academic development is favoured by rich social interactions informed by literature and student voices, benchmarked by stakeholders and facilitated by academic developers.

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