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Do Good Intentions Lead to Expected Outcomes? Professional Learning Amongst Early Career Academics in a Problem-Based Program

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Abstract: This paper presents findings from a study of pedagogical beliefs and practices amongst early career academics attending an extensive professional development program. The research questions of this study were as follows: how do early career academics define their pedagogical beliefs in relation to a pedagogical development program, and how do their beliefs manifest in their pedagogical practice? This study was based on a qualitative document analysis of 145 project reports written as the finalizing part of the early career academics' participation in the program. Reports were collected with the consent of participants, coded, and analyzed to search for emerging pedagogical beliefs and subsequent practices. The findings indicate that while almost all participants express beliefs that are aligned with the core values of the university, their reported practices are quite diverse. Based on this, we propose a framework for understanding teaching development amongst early career academics centered on their individual development and their interaction with students. This framework provides a contribution to our understanding of the teaching trajectories of early career academics and the intricate interplay between pedagogical beliefs and pedagogical practice. This framework may be of use for educational developers when planning and conducting pedagogical development activities.

Keywords: pedagogical beliefs and practices; professional learning; pedagogical development; early career academics; problem-based learning

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1. Introduction

New pedagogical competences are required of university educators as a response to 21st-century students' expectations of high-quality educational experiences [1]. Thus, universities are increasingly paying attention to providing quality support in the development and enhancement of educators' pedagogical skills and knowledge [2](Fialho et al., 2023). Saroyan and Trigwell [3] used the term "professional learning" (PL) to describe such activities. According to the authors, PL comprises the collected set of "activities and processes that academics engage in to ameliorate their academic performance and the impact of their performance on student learning" (Ibid: 93). Research demonstrates that early career academics (ECAs) are frequently underprepared for their new teaching roles [4–6] and accordingly could benefit from participating in academic development activities focused on teaching and learning [7]. Consequently, it is essential for universities to foster PL activities to support ECAs. There are various types of PL activities, ranging from short informal courses to more comprehensive programs with increased engagement with collegial communities [8–10]. The typical objectives of such courses are to provide academic

staff with the opportunity to develop their teaching skills and to reflect on teaching and learning with peers [11–13].

This study was conducted at Aalborg University, Denmark, where problem- and project-based learning (PBL) have been implemented and practiced at a systemic level since the opening of the university in 1974. Since the first PBL-based program was launched at McMasters University School of Medicine in 1969 [14], the model has attracted widespread recognition, and today PBL is widely implemented in higher education institutions around the world [15]. The PBL model at Aalborg University is based on the following principles:

- **Project organization creates the framework of problem-based learning**. A project represents a time-limited and targeted process in which a problem may be phrased, analyzed, and solved, resulting in a tangible product—a project report, for instance.
- **Courses support the project-work**. Relevant academic courses provide students with academic knowledge, theories and methods that can be used in their project work.
- **Cooperation with peers in smaller project groups is the driving force**. A group of students work closely together to manage the academic problem at hand. The role of the teacher is more of a facilitator of learning rather than a transmitter of knowledge.
- **The project must be exemplary**. Exemplarity implies that learning outcomes achieved during concrete project work are transferable to similar situations encountered by students in their professional careers.
- **Students are responsible for their own learning**. Students need to learn to take responsibility for identifying their own learning needs and organize their own learning pathways [16].

To support ECAs' alignment with the university's PBL model, a PL program based on the abovementioned principles has been provided since 2004, aiming to give participants opportunities to experience PBL as learners and thus embrace the method that they are expected to practice while teaching at Aalborg University.

A substantial number of studies have investigated how PL activities can support participants in developing new pedagogical approaches and how these activities change participants' perceptions of and approaches to teaching [11,17]. Furthermore, research has documented that extrinsic factors (e.g., the design of a PL program or the extent of institutional support) are not the only variables which influence participants' successful development of new pedagogical skills and knowledge. Intrinsic factors, such as motivation and academics' beliefs about teaching and learning, are of equally great significance [18]. Recent research documents how personal beliefs influence how teachers utilize new ideas and strategies about learner-centered teaching approaches and teaching behavior [19]. However, although we have seen an increase in research regarding the relationship between university educators' learning through PL programs and their pedagogical beliefs over the last ten years, the results remain ambiguous and inconclusive [15]. To address the need for greater clarity, the current study aims to explore how ECAs express their pedagogical beliefs and how these beliefs are translated into their pedagogical practice. This study was conducted based on the following research questions:

1. How do early career academics define their pedagogical beliefs in relation to their participation in a PBL-based PL program?
2. How do these beliefs manifest in the participants' descriptions of their pedagogical practices?

2. Theoretical Framework

The most studied factors promoting or constraining ECAs' learning through PL are the so-called contextual factors. Research on such factors has examined dynamic relational interactions [20,21], community building and sparring with colleagues [22,23], the adequacy of facilities and materials provided [24,25], department-level factors such as the provision of resources for PL [26], institutional support for changing teaching practices [27], the extent to which the institution values activities meant to enhance teaching and learning quality [28], and the level of support and engagement received from colleagues [18,29].

Alongside this focus on contextual factors, research on intrapersonal factors influencing university academics' acquisition of new teaching and learning strategies has received increasing interest over the last decade. Studies in this area have explored how participation in PL activities changes teachers' pedagogical beliefs and attitudes towards teaching and learning [15,17]. The literature often describes teachers' beliefs as either teacher-centered, with an approach based on directive instruction and reproductive individual learning, or learner-centered, with a self-directed, constructivist, and collaborative learning approach [30,31]. Research has demonstrated that pedagogical beliefs about learning and teaching influence how new teaching strategies are applied [18]. Attention must therefore be paid to how beliefs are shaped by previous experiences in educational settings [32] and how such beliefs can be changed by current experiences and future prospects [33,34]. In this regard, Clarke and Hollinworth [35] suggested an interconnected, wholistic perspective on PL in which external and internal factors converge, making PL a complex, non-linear system of interactions embracing courses, external sources of information, intrapersonal values, beliefs, efficacy, knowledge, competences, agency enaction, emotions, and interrelated encounters with students, peers, mentors, and institutional policies and conditions [36]. On this basis, this study conceptualizes PL as a complex, dynamic, situated activity comprehending external sources, internal emotional and cognitive states, and contextual relationality [21,37].

Pedagogical Beliefs in a PBL-Based PL Program

To learn to teach within a PBL framework, teachers will typically be required to restructure their existing (often more traditional) teaching practices and beliefs [28]. Educators new to teaching in a PBL context often face difficulties in trying to understand and adopt the PBL method, as the learning philosophy and practices behind this pedagogical approach in many cases will be completely different from the teaching and learning practices they are accustomed to [38]. Shifting from a traditional teaching style to a PBL-based approach can be particularly difficult for teachers who are accustomed to being a strong authority figure in the classroom [39].

While several studies [40,41] have described the benefits of PBL from the students' perspectives, research on teachers' experiences of redefining their roles as teachers within a PBL setting is limited [15]. The challenges of redefining the teacher's role have implications for PL activities since the outcomes of PBL depend on how the teachers interpret and implement the pedagogical model [42]. Consequently, teacher training becomes essential for the effectiveness of PBL supervision and lectures, and ultimately for the success of the university as such. In fact, research suggests that without adequate training in PBL, teachers are prone to revert to more directive modes of teaching [43]. Kolmos et al. [44] stated that longitudinal training can provide ongoing support for teachers in their development in the role of facilitators of students' learning in a PBL setting, as well as providing opportunities for reflection on and experimentation with newly acquired skills while teaching. Therefore, an important factor in a comprehensive PBL program is that the teachers are provided with the opportunity to experience PBL as learners and thus experience the rationale behind the pedagogy.

3. Methodology

3.1. Context of the Study

This study was conducted at Aalborg University, where the PL course provided for ECAs is referred to as the University Pedagogy Program (UPP). The UPP is a comprehensive, research-based course that provides participants with a PBL-based pedagogical and didactic foundation for a career as a university teacher. All ECAs are required to attend the UPP. The study load of the course amounts to ten ECTS points (approximately 280 working hours). Participants in the UPP take part in five compulsory course modules and at least three elective course modules. In addition, two supervisors are assigned to each participant: a pedagogical supervisor employed at the Centre for Teaching and Learning

and an expert supervisor from the participant's own department. Supervisors role is to conduct teaching observations of participants [45]. Furthermore, participants are divided into study groups to provide a forum in which they can discuss and reflect upon issues related to their participation in the UPP. To successfully complete the UPP, each participant must write a project report of between 5 and 10 pages in length addressing a self-chosen pedagogical/didactic issue. The objectives of these reports are as follows:

- To document that the ECA can successfully address a self-chosen pedagogical/didactic issue using theories on teaching, pedagogy and didactics.
- To contribute to the ECAs' reflection on own pedagogical practice and development in light of the UPP course material.
- To define future pedagogical development goals and strategies.

3.2. Research Design

This study is based on document analysis, which can be described as a systematic approach to categorizing, analyzing, and interpreting the content and context of written documents [46]. Documents provide access to social areas and activities which the researcher have no other way to access [47] and are particularly applicable to intensive studies, producing rich descriptions of a single phenomenon, event, organisation, or program [48].

One hundred and forty-five project reports were analyzed in order to identify the pedagogical beliefs described by ECAs. Furthermore, the analysis examined how these beliefs manifested themselves in the pedagogical practice of the participants.

3.3. Study Team

An interdisciplinary study team conducted the research. Represented in this team were researchers from the Faculty of Natural Science and Engineering, the Faculty of Health and the Faculty of Social Science and Humanities. In this way, this team represented a broad area of competences and expertise in regard to the varied teaching practice across disciplines in higher education. Furthermore, all but one of the team members were involved in the UPP program.

3.4. Data Collection

All project reports submitted by UPP participants between 2019 and 2021 were collected and stored in a database only accessible to the research team. All participants were informed that their project reports would be used for research purposes and that the research team would enforce the principle of confidentiality in protecting their privacy.

Project reports from 145 ECAs (46% female (N= 67) and 54% male (N = 78)) who participated in the UPP from 2019 (n = 55), through 2020 (n = 45), to 2021 (N = 45) were included in the study. This group represents all participants that completed the program over this timespan.

Participants hold PhDs in the following academic fields: Engineering and Natural Science (N = 66), Health (N = 25), Social Sciences (N = 30), and Humanities (N = 24). Overall, 30% of the participants had prior experience with PBL as former undergraduate or masters-level students at XX University, while 21% had prior experience with PBL as former PhD students at XX University. The remaining 49% had no PBL experience before entering the UPP.

3.5. Ethical Approval

This research project has received institutional ethical approval and is registered in the Unit of Grants and Contracts, Aalborg University, November 2022, under the registration number 2022-068-03080.

3.6. Data Analysis

To answer the research question, a thorough analysis was undertaken. All documents were thoroughly reviewed by the second author. Afterwards, the second author conducted a rigorous analysis based on a deductive approach [49]. First, a theory-driven content analysis [50] was applied based on the notion that themes and patterns emerging from the dataset reflect factors defined a priori in the proposed theoretical framework. Through several rounds of analysis, the second author categorized the content into meaning units [51], which were then condensed and labeled using codes [52]. Following this deductive analysis, all authors went on to explore emerging themes and patterns by applying an inductive approach. The data underwent several rounds of comparing and contrasting participant statements to establish patterns and themes [53]. Emerging patterns were color-coded and categorized. Accordingly, two general themes were identified, containing five different sets of beliefs (see Table 1).

Table 1. Themes and beliefs.

Themes	Beliefs
Own development as a teacher	• Teachers should continuously develop their teaching skills • Teaching is about acquiring methods/tools that can be used to facilitate learning • Teaching is a big part of my life and therefore it needs to be an activity I can enjoy
Teachers' interaction with students	• Students must learn to be responsible for their own learning • Some students are more eager to be involved than others

In the second part of the analysis, the research team sought to identify and categorize the pedagogical practices described by the participants in their project reports to look for similarities and discrepancies between expressed beliefs and pedagogical practices. The two general themes emerging from the document analysis (teacher-centered focus and student-centered focus) were used as a framework to categorize the participants' description of their pedagogical practice. In this respect, all authors each scored the described practice as either high- or low-focus on the two themes. Afterwards, scores were compared and categorized in one of the four categories for pedagogical practice (see Figure 1).

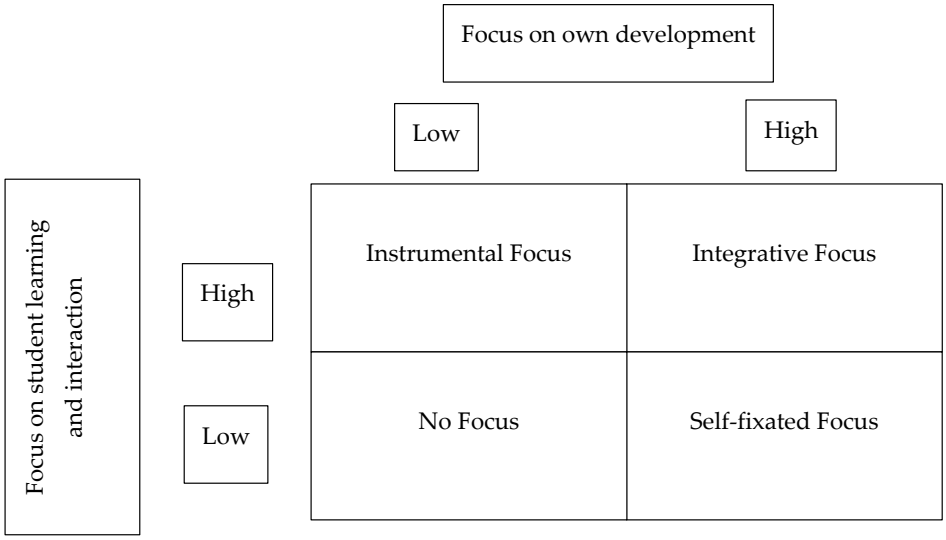


Figure 1. Four modes of pedagogical practice.

4. Findings

The pedagogical beliefs expressed by the participants are presented in Table 1. These beliefs are discussed in greater detail in Sections 4.1.1 and 4.1.2. Following this, the pedagogical practices described in the project reports are analyzed using the themes that emerge through the analysis of expressed beliefs.

4.1. Themes and Beliefs

4.1.1. Own Development as a Teacher

Within this theme, we identified three commonly shared pedagogical beliefs.

- Teachers should continuously develop their teaching skills:

In general, the vast majority of the participants express the belief that continuously developing their teaching skills is of utmost importance. Furthermore, many mention that teaching abilities are not something one either possesses or not, but rather something one must continuously strive to practice and develop in order to excel as an educator:

> "Just as students' knowledge and skills continuously grow, teachers' teaching abilities develop with time and in stages. A significant shift is from focusing on teaching to learning, enabling independent student learning. I am on an experiential student-teacher learning journey to reach this goal one day. I am a student-teacher learning to be an educator". (Participant from the Faculty of Engineering and Natural Science)

The participants emphasize the importance of an innovative mindset towards teaching to avoid getting stuck in prior habits. Teachers need to enhance their pedagogical knowledge and develop their teaching skills continuously. Overall, the participants seem to hold the belief that there is no finish line for their journey to becoming a teacher.

- Teaching is about acquiring methods/tools that can be used to facilitate learning:

Almost all participants express a desire to acquire methods and tools that they can use in their teaching to facilitate learning. Quite often, the acquisition of new tools is seen as the most important aspect of their development as teachers, since the tools are thought of as ways to foster learning. Digital tools are of special interest to many, which may be connected to the global pandemic that was raging during the research period.

> "It might be possible to overcome my teaching challenges by using the right tools and teaching models". (Participant from the Faculty of Health)

In addition to their desire to use new tools to help improve student learning, participants also express a desire to obtain theoretical knowledge, often to develop their reflexive capacity and communicative skills and improve their engagement with students.

> "I'm still practicing how to ask reflexive questions. This must be an ongoing process, through which I obtain greater theoretical knowledge but also practice, especially in the facilitator role in my future pedagogical practice and through testing new teaching strategies". (Participant from the Faculty of Engineering and Natural Science)

- Teaching is a big part of my life and therefore it needs to be an activity I can enjoy:

Most of the participants hold the belief that teaching should be a pleasurable experience. Since academics spend much of their professional lives teaching, the participants aspire to be engaged in class. They express positive emotions when they experience teaching as a relational process with active and engaged students.

> "All in all, I was pleasantly surprised by how well the class went. I would never have expected students to be so well-prepared and engaged during class. The way it went, teaching was a pleasurable experience for me". (Participant form the Faculty of Social Science)

The participants identify especially pleasing and invigorating experience moments as when they are able to involve the students and thus enhance their contribution to the learning process.

> "It was particularly gratifying that the students seemed to see themselves not just as recipients of objective knowledge, but as valuable contributors to the learning process who took their own ideas seriously". (Participant from the Faculty of Health)

4.1.2. Teachers' Interaction with Students

Two commonly shared pedagogical beliefs are linked to the second general theme.

- Students must learn to be responsible for their own learning:

In general, the participants express the opinion that teachers need to encourage students to take responsibility for their own learning by motivating them to actively contribute to lectures and supervision sessions. They describe striving to maintain a balance between, on the one hand, wanting to disseminate as much knowledge as possible and, on the other hand, enhancing teacher–student and student–student interactions. Many of the participants reflect on how they, prior to their participation in the UPP, primarily practiced teacher-centered lectures and supervision sessions in which the typical form of teacher–student interaction can be described as a one-way transmission of information.

> "As a teacher, I am still struggling to leave behind the ambition shared with many other early career lecturers of wanting to provide as much information and intellectual input as possible to the students, leaving them little space or time for reflection/digestion". (Participant from the Faculty of Humanities)

However, the new knowledge the participants gained through the UPP and their initial teaching experiences seems to have influenced their understanding of the teacher's role, and several have begun to question the notion of the teacher as someone whose primary obligation is to provide the students with information. In fact, in their final projects, the majority state that they now believe that teachers should encourage students to be responsible for their own learning as active participants instead of passive recipients, and thus they see their own role as concerned with enhancing student learning through facilitation rather than dissemination.

> "So far, my teaching style has been mostly conservative, with PowerPoint slides that vary between statistics and examples, while allowing the students to ask questions during the lecture. Throughout the UPP, I have worked to improve students' learning by improving the interaction between them and the teacher (me)". (Participant from the Faculty of Social Sciences)

However, many participants are uncertain as to the degree to which they should abandon the traditional teacher position as an expert transmitting knowledge to less knowledgeable students in favor of a process perspective in which one acts from a not-knowing position. Thus, in most of the project reports, the participants spend time reflecting on how to maintain a balance between disseminating knowledge and facilitating learning. In general, most do not take an either/or stance on the question of dissemination vs. facilitation, instead seeing teaching as an act of balancing different roles.

> "Of course, there is still knowledge that has to be delivered such as "What is a type?" and "How does an if-statement work?" but through the use of live coding with active learning I am exploring ways to facilitate the students' learning of this knowledge other than delivering it through a presentation". (Participant from the Faculty of Engineering and Natural Science)

- Some students are more eager to be involved than others:

Many participants emphasize that when they succeed in involving the students in their teaching, students' engagement and motivation seem to rise, and several of the

participants describe very positive student evaluations based on their experiments on student engagement.

> "The students understood the motivation for the experiment and were ready to 'play along'. All in all, the feedback on this experiment from the students has been extremely positive—much more so than I would have hoped for". (Participant from the Faculty of Humanities)

Although many of the participants hold the belief that student engagement is an important part of facilitating learning, an often-mentioned notion is that students seem hesitant or even unwilling to accept the role of active self-directed learners, instead preferring the position of passive recipients of knowledge. Many participants feel uncertain of what to do with this apparent resistance. Some begin to question the theory (Is it actually true that students like to be involved and active?) while others question their own ability as teachers (Am I any good as a teacher since I clearly fail to engage students like I am supposed to?).

> "I find it hard to engage students during my lectures, and it is often only a few students, and usually the same ones, that are actively engaging in the lectures. Although I try to tell them that being an active participant will indeed improve their learning, they still seem to think that they learn more when I do the talking. This has made me more hesitant to focus on active learning rather than placing a stronger focus on the content". (Participant from the Faculty of Engineering and Natural Science)

4.2. Four Dimensions of Pedagogical Practice

When analyzing the pedagogical beliefs expressed by the UPP participants in their project reports, it is important to notice that all participants naturally are aware that the project reports are to be read and evaluated by senior representatives of the university. Thus, it should come as no surprise that the stated beliefs and values are almost identical to the official pedagogical values of the university. However, as Argyris and Schön [54] state, it is not uncommon that the values espoused are not the same as the values practiced. Thus, in the second part of our study, we seek to identify the pedagogical practices that participants describe in the project reports and compare these with their stated beliefs to search for points of agreement and points of discrepancy. To investigate convergencies and discrepancies, we used the two themes described above (i.e., their own development as a teacher and teachers' interaction with students). We then sought to identify pedagogical practices that had either a high or a low focus on one of these overarching themes (see Figure 1). In the following, we present the four modes of pedagogical practice that emerged from the analysis.

- No Focus

In the first category, we find participants whose pedagogical actions focus neither on their students nor on their own development as teachers. The pedagogical issues participants in this category choose to analyze in their project reports are merely expressed as general teaching pitfalls that teachers should be aware of, without any attempt to bring these theoretical insights into participants' own pedagogical practice. This group of participants has very little focus on developing their teaching skills through practical experimentation and quite often their project reports are more concerned with technical or theoretical aspects of the academic subjects they teach than with pedagogical approaches or students' learning. Thus, their focus on both students' learning and their own development is categorized as low. We named this category "No Focus". Overall, 7% of all participants fall into this category.

- Self-fixated Focus

The second category characterizes participants whose pedagogical actions almost exclusively focus on their own development as teachers. Their project reports center on intrapersonal challenges such as overcoming anxiety when standing in front of large

audiences and reflections on how they can fulfill their role as an authoritative representative of academia. Thus, their project reports can be characterized as very introspective, and quite often the participants are primarily concerned with the challenge of being an inexperienced teacher. In this regard, they almost seem to forget about the students. Their pedagogical experiments quite often center on their own developmental journeys, in which students only seem to play a minor part or no role at all. We call this category "Self-fixated Focus". Overall, 10% of all participants fall into this category.

- Instrumental Focus

The third category concerns those participants whose pedagogical endeavors are primarily preoccupied with the students. In their project reports, these participants tend to focus on how students respond to the introduction of certain pedagogical techniques and tools. The participants in this category are clearly very invested in creating learning opportunities for their students and have many reflections on the learning value of engaging students. Although this group has a very high focus on student learning, their intense focus on the students and the tools and techniques that they use almost seems to diminish their own importance in the learning process. In this regard, the tools and techniques become de-personalized since there is no focus on the teacher as the facilitator of learning. Based on their reflections, one is almost led to believe that it does not matter who introduces the tool to the students; it is the tool that promotes the learning, and the task of the teacher is mastering the specific tool or technique. In this regard, their pedagogical experiments are not integrated with reflections about their own pedagogical development and how they themselves as teachers and educators influence the teaching and learning context, and hence influence students' learning. Although the participants in this category are clearly very interested in and eager to create learning opportunities for their students and willing to engage in pedagogical experiments, their perception of teaching can in some ways be characterized as linear and mechanical; hence, we name this category "Instrumental Focus". Overall, 38% of the participants fall into this category.

- Integrative Focus

In the fourth category, we find participants whose project reports are equally focused on the students and their own development as teachers. For these participants, the challenges they face in their role as teachers and students' learning are closely integrated, and it is not meaningful to discuss one without the other. The pedagogical experiments described in their project reports are quite similar to the experiments of the "instrumental" group. However, these participants do not limit their reflections to the students' reception and response to their experiments. They also include their own perspectives about their experience of applying each given tool or technique, why they find a tool valuable or not, and how this teaching approach resonates with their own teaching beliefs and their perceptions of themselves as educators. In the project reports, we see many examples of participants in this category describing their own professional learning journeys and students' learning as interdependent processes. Due to their interwoven interests in their own development and student learning, we name this last category "Integrative Focus". Overall, 45% of the participants fall into this category.

5. Discussion

The claimed beliefs of the participants in the UPP were, to a high degree, aligned with the core PBL principles [55], which have been implemented and practiced at Aalborg University for almost 50 years. Since almost 50% of the participants had no prior PBL experience before their acceptance to the UPP, a first impression could be that the course successfully managed to change the pedagogical beliefs of the participants. This is in line with prior research which indicates that a longitudinal PL program that allows participants to experience PBL principles in action holds the potential for changing pedagogical beliefs [56]. However, our findings are solely based on what the participants elect to disclose in their project reports. As mentioned earlier, the project reports are subject to evaluation

by senior academics representing the university, and as such a high degree of compliance between expressed beliefs and official institutional values is to be expected. In this regard, it is highly probable that participants would conceal beliefs that, in this context, would be perceived as less desirable or opposed to the "company line". Based on our own experience of educating university teachers as well as recent research regarding teacher perceptions of university teaching culture [57], we would expect the pedagogical beliefs of the participants to be somewhat more varied and characterized by internal conflict between pedagogical aspirations and scientific ambitions [58] than what is expressed in the project reports. Furthermore, the project reports are the participants' personal descriptions of their pedagogical beliefs at a specific moment in time in relation to the final assignment in the PL program; this makes it impossible to determine whether the PL program has actually influenced or directly changed the pedagogical beliefs of the participants. In general, the outcome of this study does align with what has been reported in previous studies [3,15,23,59] documenting how PL activities change teachers' pedagogical beliefs and attitudes towards teaching and learning. Thus, we find this to be a likely outcome of the PL program examined in this paper as well, but since we did not conduct a before-and-after analysis, we cannot be certain of this.

Our classification of participants into four different modes of pedagogical practice reveals a general interest in teaching amongst almost all participants. However, this model likewise illustrates that this interest and thus the pedagogical development of the participants is quite diverse, even though all participants have participated in the same PL program and are working in a university with strict pedagogical norms and expectations. It is interesting, although not surprising, that we see these discrepancies between what the participants state as their pedagogical beliefs and the pedagogical practices they describe applying in the classroom.

As experienced teachers and academic developers, we firmly believe that a reflective approach to teaching that values both student interaction and teachers' own development is most likely to bring value for students as well as teachers. In this light, the program directors might be pleased to learn that the largest single group of participants within the two-by-two matrix can be said to have an integrative focus. On the other hand, this group comprises less than 50% of the entire group. Is it satisfactory that less than half of all participants can be said to have an integrative focus after a full year of participation in the UPP? Would a different method have proven more successful?

Of course, this study does not provide clear answers to these questions. However, it can help us to understand the varied pedagogical practices undertaken by ECAs, which in turn can form the basis for the design of new pedagogical development activities. In this regard, academic developers might want to consider which teaching activities and course designs hold the greatest potential for helping participants develop an integrative approach to teaching. As is evident from our study, such reflective development is not bound to come on its own. It is conceivable that pedagogical measures that encourage self-reflection on one's own practice would have a greater chance of promoting transformative change [60]. However, such approaches are not necessarily easy to adopt. Quite a few mentors and academic developers seem inclined to adopt a pedagogical strategy where they act as authority figures within their specialty, providing concrete and direct advice based on their own experiences [61], an approach that in its essence is reproductive and endangers the ambition of promoting transformative change in PL [62]. In this regard, we propose two initiatives that might hold the potential to "move the needle".

- PL courses should be designed to promote reflection. Thus, lecturing and other classroom activities should be held at a minimum while the focus should be on the practice of learners. The pedagogical design should force participants to constantly reflect upon their own practice. Finally, PL should not be perceived at a private matter but as a contextual process. In this respect, the teaching context (departments and colleagues) of participants should be drawn into PL activities to promote a culture of deprivatization of teaching [63].

- PL educators must be trained to adopt methods promoting reflective pedagogy. If ECAs are to move towards a more integrative focus in their teacher development, educators must know of this goal and act accordingly. The four-category model could also prove helpful to future PL educators as it clearly states the envisioned goal of PL activities. Furthermore, the model can provide educators with a more detailed understanding of the pedagogical journey on which the ECAs have just embarked.

This study has a few limitations that provide perspectives for future research. The study outcome, although based on a larger group of project reports from three cohorts of participants in a one-year-long progressive PD program, is limited to being the only data source of the analysis. Therefore, the study results can be further consolidated through other sources of data in follow-up studies, including interviewing and observation of participants from each of the identified categories. Views from other angles, such as the program supervisors and students of the participants, may also provide useful insights and foster a better understanding of the relation between pedagogical beliefs and practices of ECAs. Furthermore, this study is placed in one specific university setting. It would be interesting to see to what extent beliefs and practices vary across universities, national borders, and different PD programs.

6. Conclusions

This study examines the pedagogical beliefs expressed by early career academics and how these beliefs are manifested in their descriptions of their pedagogical practice. Based on an analysis of 145 project reports from participants in an extensive PL program, two general themes ("own development as a teacher" and "teachers' interaction with students") were identified, with, respectively, three and two associated pedagogical beliefs. Furthermore, four modes of pedagogical practice based on the two general themes were derived from the descriptions of pedagogical experiments found in the project reports. These four different modes represent a framework for understanding pedagogical development amongst ECAs while raising questions regarding more traditional approaches to PL at the same time.

The analysis suggests that the pedagogical beliefs that participants hold do not always lead to concordant pedagogical practice. Even though the course was apparently very successful in changing the beliefs of participants, aligning them with official company values, concrete pedagogical practice turned out to be much more varied and less in accordance with the stated beliefs and the "company line". As an academic developer, it is important to remember that even though education holds the potential to change beliefs, this does not necessarily translate into changed practice. Thus, PL activities must be linked with concrete practice and educators must be well equipped to promote the desired change in perspective and practice amongst participants in PL activities. Finally, this study reminds us that academic development is complex, dynamic, and situated. Thus, development as a teacher is best described as a nonlinear activity that includes social and intrapersonal elements.

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