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# University teachers' professional agency for learning and leading sustainable change

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**ABSTRACT**

Using social constructivist theories of adult learning and complexity thinking perspectives, a long-term, multi-tiered professional development (PD) programme was designed, implemented and evaluated at Qatar University. This qualitative study explored the systems of influence on 24 university teachers' professional agency for learning and leading sustainable change throughout their participation in the programme. Within the context of educational change, university teachers' professional agency refers to their ability to exercise control, take stances, make choices and exert influence in ways that impact their learning and leading sustainable change. Using multiple sources of data, participants reported supports and constraints to their professional agency within multiple systems. These systems of influence included factors within the personal, PD programme, department/college, and university systems. Findings revealed variations in university teachers' willingness and capacity to examine previously held beliefs, design innovative pedagogies, and become change agents. The findings underscore the notion of *emergence* as an explicit characteristic of learning and leading change within and across complex systems. Future iterations of the programme, and similarly constructed programmes in higher education contexts, should consider the systems of influence on university teachers' professional agency for learning and make concerted efforts to support their ability to lead sustainable change.

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## Introduction

Higher Education (HE) institutions are complex systems, constantly undergoing many and wide-ranging changes; some caused by local demands while many more follow on from global trends (Saroyan and Trigwell 2015, Kálmán *et al.* 2020). To perform their roles, university teachers must find ways to navigate the challenges which often accompany change (van Schalkwyk *et al.* 2015). One profound demand in recent years has been the call for quality teaching and learning (Chalmers and Gardiner 2015, Saroyan and Trigwell 2015). This call has placed university teachers under the spotlight, as many enter the profession equipped with state-of-the-art knowledge in their respective disciplines, yet have insufficient preparation in innovative teaching and learning pedagogies (Chalmers and Gardiner 2015, Kálmán *et al.* 2020). In response, many HE institutions have approved teaching and learning centres that offer services in the form of online workshops and

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resources, orientation sessions for newcomers, individualised consultations, and ongoing professional development (PD) opportunities (Amundsen and Wilson 2012, Chalmers and Gardiner 2015).

Indeed, large variations exist in the way PD programmes are positioned in HE institutions, yet more importantly is the recognition that even the most seemingly coherent design may not necessarily result in intended professional learning or sustainable change (Amundsen and Wilson 2012). Reports from school contexts further confirm the complexity of teacher learning and change, and the inherently problematic endeavour of evaluating the impact of PD programmes (King 2016). Although some researchers have documented the effectiveness of certain PD programmes in instigating change processes (Saroyan and Trigwell 2015, Du *et al.* 2021), they also refer to instances where unexpected or undesired outcomes have emerged (King 2016, Englund and Price 2018, Chaaban *et al.* 2023). These somewhat disappointing outcomes present a challenge to PD providers and researchers who not only seek to understand, but also enhance the outcomes of their programmes beyond their limited durations; that is by ensuring the sustainability of PD practices beyond the duration of the programme (King 2016, Du and Lundberg 2021).

In a school context, a number of researchers have taken up this challenge in recent years (Opfer and Pedder 2011, Garner and Kaplan 2021). A common conclusion has been the necessity of preserving a holistic and non-linear view of the influence of PD programmes on desired professional learning outcomes (Strom and Viesca 2020), including the development of participants as change agents capable of leading professional learning beyond the duration of the programme (King 2016). Rather than adopting a linear approach, these more holistic models deliberate the simultaneity of influences, or what can be termed the systems of influence, on university teachers' beliefs and practices, while also consider the complex interplay between their professional agency and the socio-cultural and institutional structures where they perform their multiple roles (Strom and Viesca 2020, Du and Lundberg 2021, Garner and Kaplan 2021). We mean by the *systems of influence* those salient interacting and interrelating factors which influence university teachers' professional learning and their development as change agents within multiple systems (Chaaban *et al.* 2023).

In agreement with deliberations made on the complexity of teacher learning and change in school contexts (King 2016, Strom and Viesca 2020), our contention is that professional learning is a complex process, necessitating the engagement of university teachers in collaborative learning activities in which they play an agentic role; i.e. questioning, analysing, designing and reflecting on their practices (Englund and Price 2018, Du and Lundberg 2021). It also necessitates understanding how professional agency for learning emerges and how it can be supported for leading sustainable change within the particular socio-cultural contexts where such change is to materialise. As systems, PD programmes constitute an assemblage of elements, both human and nonhuman, that come into play in different ways for participants, leading to variations in outcomes, which can be described in terms of *emergence* (Davis and Sumara 2006, Strom and Viesca 2020). Because of their unpredictable nature, emergent phenomena; that is new learning and practices, will be qualitatively different for each participant, or what Strom and Viesca (2020) describe as 'hybridised' and 'never a pure transfer of learning' or 'high fidelity implementation' (p. 5). Based on these contentions, we used social constructivist theories of adult learning and complexity thinking perspectives in designing a long-term, multi-tiered PD programme, and facilitated its implementation at Qatar University, spanning two phases (Phases 1 and 2) across the Spring and Fall semesters in 2021.

Previous studies documenting the potential of PD programmes in HEIs have revealed change processes in multiple directions, such as acquiring knowledge, changing teacher-centred beliefs and using innovative instructional practices, which are believed to improve academic achievement for students (Chalmers and Gardiner 2015, Saroyan and Trigwell 2015). However, inconclusive and discrepant findings on the impact of PD programmes abound in a HE context (Stes *et al.* 2010, Chalmers and Gardiner 2015, Englund *et al.* 2018), and it is unclear why some university teachers change their practices by implementing new pedagogies learned from PD

activities, while others do not. It is also unclear why some PD outcomes become well-established and sustainable, while others become just another fad. Similar queries have been taken up extensively within the literature on school teachers' implementation and sustainability of change as outcomes of PD (King 2016, Strom and Viesca 2020, McMillan and Jess 2021), yet evaluation studies in HE contexts have received comparatively less attention (Chaaban *et al.* 2023). These discrepancies in implementation and sustainability necessitate further research in HE contexts that can offer a nuanced understanding of the different factors which may support or impede university teachers' professional learning and consequent practices. Drawing on extant literature (Eteläpelto *et al.* 2013, van Schalkwyk *et al.* 2015), this qualitative study aimed to bridge this apparent gap in the literature by extending the evidence base on the evaluation of PD programmes into a HE context. Accordingly, this study aimed to explore the systems of influence on 24 university teachers' professional agency for learning and leading sustainable change.

## Professional learning and complexity

Prevalent PD programmes have been based on input-output models; whereby *what works* emanates from policy makers, researchers or PD providers (McMillan and Jess 2021), who seek to measure outcomes through statistical averaging (Opfer and Pedder 2011, King 2016). Several criteria constituting *a core set of features* of effective PD programmes have been documented over the years, providing heuristics from whence to begin the design process (Desimone 2009, Boylan *et al.* 2018). Taylor (2020) summarised these *advocated approaches* as being:

> intensive, varied, ongoing and sustained; learner-focused and curriculum/subject-related; collaborative and build relationships; work-based, with active learning; oriented towards experimentation, inquiry and research; enhanced by coaching, mentoring, co-teaching and peer observation; promoted by networking and wider professional learning communities; supportive and challenging of dialogue, thinking and change; nurtured by leadership, trust, coherence and cohesion; and supported by external expertise (p. 2)

Several of these core features have been integrated into the design and evaluation of PD programmes in a school context (McMillan and Jess 2021, Garner and Kaplan 2021), which emphasise teachers working collaboratively to change their practices, sharing expertise in learning communities and engaging in reflective professional enquiry (King 2016). The HE context, however, poses additional challenges, particularly that only few opportunities for professional learning are offered to university teachers with these characteristics (Chaaban *et al.* 2023), and opportunities to promote PD initiatives in HE tend to be hindered by the complexities inherent in offering substantive evidence of their impact on teaching and learning processes (Chalmers and Gardiner 2015). Therefore, evaluation criteria which pertain to input-output models inherently entail 'complexity reduction' (Taylor 2020, p. 1), which do not account for complex processes of change. Therefore, there have been several calls in the literature to take complexity thinking orientations throughout the design, implementation and evaluation of PD programmes that help to identify the systems of influence on professional learning (Cochran-Smith *et al.* 2014, Strom and Viesca 2020, Garner and Kaplan 2021, McMillan and Jess 2021).

One particular characteristic of the complexity of professional learning is that 'it evolves as a nested system involving systems within systems' (Opfer and Pedder 2011, p. 379). Because of their nested nature, the boundaries within and across systems tend to be fluid and overlapping, leading to a *spill-over* effect on different actors and elements (Strom and Viesca 2020, McMillan and Jess 2021). In the context of university-based PD programmes, and drawing on insights from Opfer and Pedder (2011) from the school context, professional learning is constituted simultaneously in the individual actions and practices of agentic university teachers, in the collective interactions and interrelations of the PD programme, and the wider subsystems with multiple unities (academic departments within colleges within universities within sociopolitical

educational contexts, etc.). Accordingly, research on PD programmes have emphasised the 'emergent patterns of interaction within and between levels of activity that would constitute an explanatory theory of [university] teacher learning as a complex system' (Opfer and Pedder 2011, p. 379).

Drawing on this complexity, it becomes difficult to predict the emergence of outcomes from PD programmes in any exact terms. Processes of change do not emerge in vacuum, as university teachers' engagement, motivation and agency to enact change is contingent on factors embedded in other systems pertaining to the structure and culture, as well as the general policy environment in HE institutions (van Schalkwyk *et al.* 2015). There is, however, some evidence of change documented in prior research, including changing conceptions and beliefs, implementing new pedagogical skills, fostering reflection based on feedback, developing a professional identity, fostering engagement in the scholarship of teaching and learning, and networking and community building (Saroyan and Trigwell 2015, Chaaban *et al.* 2023). Therefore, there is more emphasis on *emergence* as a characteristic of learning in complex systems, such as PD programmes, while acknowledging that the same factors producing professional learning may also lead to contrary results in different combinations, circumstances and sequences (Cochran-Smith *et al.* 2014, Strom and Viesca 2020). Taking a complexity thinking approach when designing, implementing and evaluating PD programmes can thus provide insights that may go unnoticed otherwise.

## Professional agency in the context of educational change

Within the context of educational change, university teachers' professional agency refers to their ability to exercise control, take stances, make choices and exert influence in ways that impact their learning and leading sustainable change (Hökkä *et al.* 2017, Vähäsantanen *et al.* 2020, Chaaban *et al.* 2021). University teachers' professional agency in this context is important because it not only influences what and how they may implement new practices in their courses, but also their ability to sustain such practices beyond their participation in PD activities (Hökkä *et al.* 2017, Du and Lundberg 2021). It also influences their ability to act as change agents in their contexts, disseminating their newly acquired knowledge and skills to others (Englund and Price 2018, Vähäsantanen *et al.* 2020).

As professional learning takes place in the complex system of the PD programme, university teachers are viewed as agentic professionals who possess autonomous thinking and make active choices about what to learn, how, when and where (Vähäsantanen *et al.* 2020, Du and Lundberg 2021). Contemporary research on professional agency has presented different conceptualisations and characteristics (Bandura 2006, Biesta and Tedder 2007). The main focus has been on individuals; their actions, choices and initiatives (Englund and Price 2018). Building on these individualistic notions of professional agency, Eteläpelto *et al.* (2013) proposed a subject-centred sociocultural approach that places significance on the wider context in which learning takes place; making it a compatible approach with the complexity thinking perspectives adopted in this study.

According to this approach, professional agency for learning is manifested in and resourced by a reciprocal interaction between individuals' beliefs, values, interests and professional identities on the one hand, and social conditions, material resources and power relations on the other (Eteläpelto *et al.* 2013). In line with this view, recent research on professional agency addresses the interplay of intrapersonal, relational, and institutional factors found to shape, support or constrain university teachers' professional agency (Hökkä *et al.* 2017, Chaaban *et al.* 2021, Du *et al.* 2021). Such interplay of multiple factors and systems has raised doubts about the ability of teachers to take their learning from PD programmes and implement it intact into their classrooms (Strom and Viesca 2020). Instead, a distributive form of agency is believed to be at play in the context of educational change, as teachers share agency with other elements of a complex system, including human and non-human elements (Strom and Viesca 2020). This is not to suggest that university teachers lack agency

to enact new learning from PD programmes, but to emphasise the supports and constraints at multiple levels of the system.

At the intrapersonal level, professional agency is influenced by university teachers' prior experiences, motivation, pedagogical beliefs, self-efficacy and expectations for the future (Bandura 2006, Billett 2006). Power relations and the distribution of authority, particularly in centralised systems of HEIs, affect university teachers' ability to make choices and take actions that influence their work (Eteläpelto *et al.* 2013), as do structural factors, which constitute the professional tasks they are required to do, the norms and policies of the institution, and the material and social resources available (Priestley *et al.* 2015). Specifically, professional agency is found to be fostered by leadership support (Kálmán *et al.* 2020,), that empowers university teachers, maintains their autonomy and creativity, and gives them the opportunity to feel in control of the choices they make (van Schalkwyk *et al.* 2015). A positive work environment where university teachers have supportive peer relationships and experience trust and emotional safety, is also a significant contributor to professional agency (Priestley *et al.* 2015).

While professional agency provides a useful lens for exploring professional learning resulting from participation in PD activities, the notion can also be used to understand university teachers' abilities to lead sustainable change. One of the main issues facing PD programmes is whether intended changes in practice are sustained and transferred to others after the intervention (Edmund and Price 2018, Stes *et al.* 2010). In this regards, Englund and Price (2018) suggest that sustainability is often lacking in PD programmes because they are carried out in isolation from university teachers' daily concerns, and fail to cater to their context-specific needs and local practices. van Schalkwyk *et al.* (2015) contend that structural and cultural domains in any system will inherently constitute supports and constraints, yet it is the third domain of professional agency which will lead to the variability in PD outcomes and their longevity. Therefore, sustainability can be understood as a collaborative, communicative and continuing process (Englund and Price 2018), achieved through opportunities for university teachers to take active roles in their own professional learning.

## Study context

This study was conducted at X University, where there have been several initiatives aimed at facilitating university teachers' professional learning of innovative pedagogies, as well as supporting their development as change agents. As coordinators of the PD programme, the three authors played a leading role in designing, implementing and evaluating the programme, building on social constructivist theories of adult learning. This section documents the design and implementation of the PD programme, while the evaluation of the programme will be presented in the Findings section. Social constructivist theories suggest that learning is an active process in which participants construct knowledge and meaning through interactions with others within the environment. It further emphasises the socio-cultural context in which learning occurs and recognises the importance of collaboration, reflection and feedback loops throughout the learning process (King 2016, Chaaban *et al.* 2023). Accordingly, we integrated four design principles into the development of the PD programme, including reflective practices, facilitated discussions, learning communities, and authentic tasks.

First, participants engaged in multiple opportunities to reflect on the presented information; linking it to their experiences (past and present). These reflective practices were embedded systematically in a teaching and learning (T&L) portfolio which participants completed on several occasions throughout the program. They were also embedded within six workshop presentations which participants received as voiceover PowerPoints that lasted 30–60 min each. At certain points in the recordings, participants were requested to reflect on what their past experiences looked like in relation to the information presented, and how these experiences could evolve into new practices. These reflections were shared orally by participants in follow-up synchronous sessions with the coordinators.

Second, participants took part in eight synchronous meetings during Phase 1 in order to discuss their perceptions, ideas, and experiences in relation to the information presented in the voiceover PowerPoints (six sessions), as well as present their new teaching designs (2 sessions). The six presentations provided participants with background information in a compact way, while also making some suggestions for further voluntary readings. Participants were thus able to share new understandings and relevant experiences based on the information presented during the synchronous sessions. During these facilitated discussions, participants also implemented collaborative strategies that required them to solve issues concerning proposed change and employ several skills, such as team building, communication, and problem-solving skills. These facilitated discussions continued in Phase 2 during the implementation of the new teaching design as monthly meetings. Thus, the facilitated discussions offered participants the space to explore different topics in depth, to negotiate and co-create understandings, and to exchange perspectives through social interactions.

Third, learning communities were deployed on two levels. For one, we encouraged participants to function as a learning community and provide support to others participating in the programme. Participants were able to offer and receive feedback during the facilitated discussions and more prominently during the implementation of their new teaching designs. Further, participants also worked within college-specific communities alongside the college facilitators. Expectations of the learning communities, as explicated in the research by Stoll and Louis (2008), were set with the college facilitators and further transferred to the participants from the colleges. The college facilitators received coaching for their roles during the semester before the launch of the PD programme, including ways to establish effective learning communities. These smaller communities offered a place where participants could receive specialised feedback on their new teaching designs. They were further encouraged to discuss the information presented in the workshops, voluntary readings, and other readings of their own choosing in these smaller communities.

Fourth, participants had several opportunities to engage in authentic tasks which were consistent with their own teaching plans and goals. Accordingly, they developed a new teaching design in Phase 1 of the program to be implemented in Phase 2. They redesigned their courses in a way that allowed their students to engage in inquiry and problem solving, participate in discussions and collaborative teams, and take responsibility for their learning. Notwithstanding the varying beliefs and practices among participants, they were encouraged to consider issues and needs within their teaching context without necessarily following the same trajectory for change. Rather, participants were encouraged to enact professional agency in their actions, decisions, and initiatives for the new teaching design. This meant choosing among the variety of SCL approaches and methods those most suitable for their students. Their new teaching designs reflected their teaching beliefs and values and understandings of SCL approaches, with careful consideration to the teaching context, student population and potential constraints within the socio-cultural context of the department, college and beyond.

## Study design

This study was part of a larger project documenting the evaluation of the PD programme from different angles and perspectives. For this study, we adopted a qualitative research design, which is a useful approach in obtaining an in-depth, multi-faceted understanding of participants' lived experiences in authentic settings. The aim was to identify the core meanings of a shared experience from the perspective of participants. Qualitative research facilitates a nuanced understanding of the complexity of human experiences and describes the essence of these experiences (Creswell 2014). Using the lens of professional agency, the focus was on university teachers' perspectives and their *living through* the experience of the PD programme, in order to explore the systems of influence on their professional agency for learning and leading sustainable change. This study was thus guided by

the following question: *What are the systems of influence on university teachers' professional agency for learning and leading sustainable change?*

## Participants

Participants were selected from the university's 11 colleges, as well as the general studies programme, based on the selection criteria shared with the deans. Initially one participant was chosen meeting the criteria of prior teaching experience at the college, reputation for quality teaching, and willingness to participate on a voluntary basis. These participants were designated college facilitators and supported the coordinators (i.e. authors) throughout the further design and implementation of the PD programme. Specifically, they each chose two other university teachers from their respective colleges and together they constituted a learning community, nested within the larger community of the PD programme as a whole.

During Phase 1, the 24 participants, including 6 females and 18 males, took part in semester-long PD activities and completed the requirement for redesigning their course syllabus based on constructive alignment principles and student-centred learning (SCL) approaches (see Du *et al.* 2021). However, for various reasons, including unwillingness to continue with the programme for three participants, the number of participants dropped to 19 participants in Phase 2 of the programme. Participants were informed from the very beginning that the PD programme would not influence their evaluation and they were free to opt out of the programme without any consequences to their work. While the majority of participants were assistant professors ($N = 17$), there were also lecturers ($N = 1$), associate professors ($N = 4$) and professors ($N = 2$). There were 18 males and 6 females with diverse disciplinary backgrounds.

## Data collection and analysis

Data collection tools constituted two main sources: Teaching and Learning (T&L) portfolios and semi-structured interviews. To triangulate the data from these main sources, records of observational data, small-group discussions, and redesigned course syllabi were also collected.

### *T&L portfolios*

The portfolios constituted six entry points, each including a number of guiding questions as prompts for participants to articulate their experiences before and during the planning phase (Phase 1), and after the implementation phase (Phase 2). Participants submitted their portfolio entries according to a set timeline and received dialogic comments on their entries in the form of written comments.

### *Interviews*

At the end of Phase 1 and 2 respectively, participants took part in a semi-structured interview guideline. The questions probed into participants' experiences throughout the PD programme, including changes to beliefs and practices, contextual supports and constraints, perceptions on the programme, and reflections on critical incidents reported by participants as impacting their learning from the PD programme. Following recommendations by Kvale and Brinkmann (2009), participants were also encouraged to discuss any aspect of their experiences without limitation. The interviews were conducted by an independent research assistant, either in Arabic or English depending on the participants' preferences. They were audio-recorded and transcribed, and lasted for an average of 50–60 min.

Data analysis used an inductive and deductive approach, as we individually and collaboratively conducted several rounds of comparing multiple data sources. The two main sources of data, i.e. the T&L portfolios and interviews, were initially analysed inductively per participant using thematic analysis procedures (i.e. reading the data, generating codes, searching for themes, and labelling the

themes). Using thematic analysis guidelines, we reduced the large amount of data into codes and categories constituting the human and non-human influences on participants' professional agency to enact change from the PD programme. This process facilitated the process of examining each participant as an individual who possesses an amalgam of unique characteristics and embedded in distinctive socio-cultural contexts. In the following step, a deductive approach was implemented using the lens of professional agency and the *systems of influence* perspective derived from complexity theory. This meant rereading the emerging themes from the first step and classifying them into table format across the identified systems (individual, PD programme, department/college, and university). The two main sets of data (T&L portfolios and interviews) were merged at this stage to account for the complexity of individual's beliefs and perspectives, rather than document change overtime. Accordingly, we were able to identify the different human and non-human elements which contributed to supporting and/or hindering participants' professional agency for learning and leading sustainable change.

## Findings

In this section, we present the emerging themes within the systems of influence on university teachers' professional agency for learning and leading sustainable change.

## The individual system

Within the individual system, an amalgam of elements was at play in supporting or constraining participants' professional agency. These elements included knowledge, skills, experiences, understandings, beliefs, attitudes and affect. In reporting these findings, we present them simultaneously to show their interactions and interconnectedness.

Most participants ($N = 15$) were personally engaged in the PD programme and articulated their thoughts and perceptions about its main principles (i.e. constructive alignments and SCL approaches) using positive terms. For instance, Participant 1 claimed to have undergone 'a complete role change,' and that 'the program made a transformation in [his] understanding, and this transformation is not temporary; all [his] future work is going to be based on what [he] learned.' Participant 15 also described her changed practices and is 'willing to share what [she] learned with other faculty in the college.'

Several participants were also vocal about acquiring new understandings; they used educational terminology describing the shifting roles of teachers as 'facilitators and advisors' (P5), someone who 'ensures learning happens' (P22), 'rather than authority' (P4), while students were conceived as 'active learners' (P19), who 'have advocacy inside the classroom' (P7). For some with prior knowledge on SCL approaches, the PD programme was an opportunity 'to refine [their] knowledge' (P10), 'acquire a detailed understanding immersed in theories of SCL' (P18), and 'become aware of the benefits of SCL, but also the challenges to take it seriously' (P22).

They also revealed new understandings by contrasting their beliefs before and after participating in the PD programme. For instance, Participant 4 elaborated that 'SCL is not only about making students independent in their learning . . . it also has to do with raising the levels of their thinking skills.' Accordingly, they were able to assess their past experiences and 'discover shortcomings and where they needed improvement' (P3). One particular change discussed by Participant 4 was manifested in the awareness about his prior experiences with projects, which 'were designed so that students apply what they were taught, rather than an opportunity to learn by themselves and expand their thinking and attain a large set of skills.'

Having a positive attitude and affect towards educational change was also seen as a prerequisite for the sustainability of change. For Participant 14, the fact that he was 'convinced and liked these activities' motivated him to 'expand this programme and spread this culture to everyone who was teaching this course,' while Participant 22 took a reactive approach and 'met with [his] colleagues to

reflect and look back on what [they] all experiences, what worked and what did not, what needs to change, and how they can evaluate the outcomes.'

The cases of participants with positive perspectives can be contrasted with cases of other participants ($N = 7$) who did not share similar beliefs or affect towards the principles of the PD programme. In the case of Participant 6, the programme 'did not offer anything new, [she] already knew most of these things ... and [she] already emphasised on these aspects in the learning outcomes, like the critical thinking skills of the students.' Similarly, other participants also had "previous knowledge about SCL" (P13) and 'a solid foundation in education' (P19). In the case of two participants, 'some of the ideas presented are really inapplicable in the classroom ... there are other ways of applying SCL that can achieve the same outcomes intended by the programme' (P3). Participant 20 also questioned the selection of participants for the PD programme, asking 'why are they giving this programme to the best people at the university ... they already know about these teaching approaches and have been doing this all the time before the programme.'

In terms of beliefs, there were few cases of participants ($N = 2$) who held incompatible beliefs with the goals of the PD programme. Participant 12 was clear about his role of 'knowledge provider' and 'class controller and organiser.' He noted having 'the knowledge to provide it to the students,' as well as 'assess their work by providing guidelines and feedback.' In regards to constructive alignment which was advocated in the PD programme, he believed that 'instructors do it by nature, but having this critical background made it clear' (P12).

## PD programme as a system

Several PD activities were commended by the majority of participants ($N = 15$). Most agreed that 'exchanging experiences' (P3) within the established learning communities as a highlight of the programme. Despite disapproving his selection for participation, Participant 20 found 'the most interesting part was the engagement with the other instructors in peer-to-peer discussion,' and added 'there will always be things to learn from their experiences.' In agreement, Participant 22 described other participants as 'very knowledgeable people who give very good constrictive feedback that [he] learned from, [such as] how to assess, how to prepare students for presentations, how to make scenarios. There are so many good ideas that [he] will apply.' Participant 21 also emphasised the importance of the college-level learning communities in helping her 'reflect on [her] practices, then it becomes a matter of willingness to apply or not.' Of course, not all participants shared similar perspectives, specifically with respect to the PD-level learning communities, and some ($N = 4$) described these discussions as a 'waste of time,' because 'somethings applied to other colleges wouldn't be applicable to [her] courses ... it is not added value to [her]' (P6).

Another supporting characteristic were the recorded sessions, which according to P5 'gave [him] a chance to get ready in advance, and often come to the training with a lot of information to share.' For Participant 10, 'the portfolios were the most powerful ... they forced [him] to think because that's what writing does.' In approval, Participant 18 commended the dialogic portfolio indicating that he 'wrote about some beliefs and practices and [his] answers were a bit long, but the fact that [he] received comments was really appreciated. [He] was afraid that nobody will read the answer.' Other aspects of the program received mixed reviews, such that the timing and duration of the programme was debated as being 'too long' (P9), 'too short' (P17), and 'a little speedy' (P21) from different participants. The number of workshop presentations was also disputed as both 'too much' (P12) and 'limited in number' (P5). These comments would have to be understood within the context of the 'already heavy workload' (P1) and 'time constraints' (P20) that university teachers must manage, and the notion that 'it's not the same glove that fits all' (P22).

Almost unanimously, participants ($N = 19$) appreciated the role of the college facilitator as supporting their professional learning. For the most part, these college facilitators liaised between the PD coordinators and the college leadership. Accordingly, most participants met their college

facilitators regularly to 'discuss similar challenges' (P2), 'get feedback on the action plan' (P4), and 'learned from his experiences with SCL' (P5). The college facilitator was also 'the first person [they] went to for advice' (P9), and 'who kept [them] going on in the programme till the end' (P10). Having prior acquaintance with the college facilitator was also an advantage for participants, who described strengthening this "relationship and connection by contacting him for any questions and inquiries (P12). Participant 15 described his college facilitator as 'the right person for the job . . . [as] she was very knowledgeable, responsible, and enthusiastic.' For some, the college facilitator 'has insider knowledge of the challenges in the college . . . and knows how to get buy-in for the programme' (P16).

The PD coordinators were mentioned by some participants ($N = 9$) as contributing to their professional learning. For example, when discussing the lack of college support, Participant 1 described the PD coordinators as offering 'exceptional support.' He proclaimed that 'they saved [him] in the last chance, as [he] was going to give up and just listen to [those who opposed his ideas].' Participant 21 also commended the role of the PD coordinators as 'experts,' who 'shared their comments and ideas, because sometimes instructors think that they are doing the right thing, but in fact they need someone to give an education perspective.' Other participants ($N = 4$) were critical of the coordinators' role, and described the debates that went on during some of the sessions, in which they were seen as 'insisting that their suggestions should be followed' (P18). Participant 3 suggested that 'the coordinators should be more flexible with the ideas they present,' as Participant 12 emphasised that he knows his students better and 'they can't do the things required in this programme; they are not free to learn, they don't have time to learn. As an instructor, it is [his] job to make the student learn.'

## Departments and Colleges as systems

The findings pertaining to the system of departments/colleges will be divided into two subthemes, particularly to highlight participants' perspectives on their students against other aspects in their departments and colleges, which may have or not supported their professional agency.

In regards to students, several participants ($N = 10$) expressed their concerns towards students' readiness, skills, attitudes and academic integrity. Participant 5 explained one challenge with 'students' focus on their grades" and preference for 'multiple choice exams,' while Participant 14 was aware that 'students are not working well in groups, and some students may use outside sources to do their assignments,' and emphasised that, 'they all want the grade at the end of the day.' Participant 20 elaborated on the reasons behind certain challenges with students, claiming that 'students come from a lecturing environment in schools . . . whenever [he] tries to encourage them to discuss, ask, think . . . the problem is that they are used to spoon-feeding.' There was also agreement on the demands of SCL on students, such that 'students are overwhelmed and over-loaded with many assignments that require a lot of time' (P21). Because students are 'unfamiliar with SCL,' according to Participant 22, 'the approach looks more loose to them and they have to quickly understand that it's a lot of commitment . . . and many do fail and here it puts more commitment on the instructors too.' There was also further reflection on students' responses in the implementation phase. In this regard, several participants ($N = 12$) expressed different experiences with students; some finding SCL approaches "helpful to increase students' engagement and participation" (P22), while others finding that their previous concerns materialised in some students' failure 'to keep up with all the requirements of the course' (P12) or students 'not able to implement the project on their own' (P3).

For some participants ($N = 3$), department and college leadership support were lacking. They were unable to obtain the necessary approvals for making changes to their courses. For example, Participant 1 proclaimed that 'everyone was against [him], it was a very difficult experience to convince people about the change [he] wants to bring to the course.' Another challenge was the 'highly-coordinated' nature of some courses according to some participants ($N = 6$). For example,

Participant 6 explained, 'there are other instructors teaching [her] course, and [they] all have to agree on the changes,' while Participant 12 spoke of 'aligning [his] course with colleagues who are teaching the same course; in terms of teaching material and assessments. Too many changes and the students will begin complaining why they are different than others.' This concern was further related to the challenges pertaining to students noted above, in that 'student care about their grades only, and they will compare between instructors.' Participant 15 described the process of obtaining approval as 'a very long, time-consuming, and tiring process that hinders any improvement.'

For others ($N = 9$), department and college leadership support were available. For participant 3, 'the college team is deploying all their efforts to produce high-quality outcomes in teaching and research,' while Participant 18 noted that 'one major asset is the amount of freedom accorded to instructors in how to teach and present their content, which creates a variety in the performance of instructors.' Participant 7 specifically noted the support of his dean, who 'promoted experiential learning, and gave [him] the freedom to design the syllabus and new assessment tools.' Similarly, Participant 22 described the support of his dean, saying 'he is doing project-based learning himself in his class. He was the one who presented the concept to the college.' Additionally, Participant 21 described a hands-on approach adopted by the head of department, who 'discussed the syllabus and if it would work, and highlighted the weaknesses and strengths.' Throughout the implementation phase, Participant 10 continued to receive leadership support from the college, which 'culminated to teaching seminars where they were able to disseminate their learning on this programme ... which gave them a voice and a stamp of approval for the rest of the instructors to emulate.'

Still others ($N = 4$), the structure of their programmes was already based on problem-based learning approaches. This prompted them to implement practices based on principles similar to those advocated in the PD programme, without necessarily adopting SCL beliefs. For example, Participant 16 called himself 'a conventional practitioner who taught in traditional ways in his hometown university ... but the curriculum here is based on problem-based learning, so it is similar to the PD programme.' Therefore, Participant 9 thought that their 'participation in this programme did not change the way [they] are teaching because [they] already adopt learner-centred approaches' (P9). Despite this advantage over the other participants, they nonetheless struggled to find ways to enhance their teaching and learning practices. As a team, they settled for 'improving the rubrics implemented in the college, which will give students specific ideas on how and on what basis they are graded' (P11).

Accreditation regulations within some colleges were also noted by some participants ($N = 4$). Some saw accreditation as encouraging SCL approaches. For example, Participant 20 described how his department 'follows the guidelines of accreditation, and [they] have re-evaluated their courses recently and have showed evidence of project-based learning and other advanced strategies.' While another perspective was that accreditation 'encourages checking boxes, and if some instructors are implementing SCL and providing the evidence for accreditation, it doesn't mean everyone is doing it' (P10).

## The university system

As an impersonal entity, the university system was only portrayed as a hindrance to participants' professional agency. Noteworthy, the university employs a centralised system, whereby major policies and regulations originate from the senior leadership team. In discussing challenges, several participants ($N = 8$) gave specific examples justifying their inaction towards transformational change. For example, Participant 6 was apprehensive of the number of students allowed to join classes, which creates "high pressure on faculty who teach a huge number of students ... When they are correcting questions related to critical thinking, it takes a lot of time, it is not like true/false or multiple-choice questions, so when you teach 150 students, that is a big challenge." Reflecting on the implementation phase, Participant 2 found 'it was a nightmare to teach with so many students in the class,' and called for a 'top-down collaboration between administration and instructors, to

reduce the number of students in classes and allow for more flexibility for the instructors.' Another hindrance pertained to 'the assessment policy at the university,' which according to Participant 5, 'does not give room for decision-making,' while 'the curve grading system makes students compete to achieve the best scores regardless of the importance of knowledge.'

Reiterating these challenges, Participant 10 elaborated on the organisational challenges hindering university teachers' professional agency. He explained that 'there is a lot of micro-management at the university level, especially when it comes to assessment procedures, there are many policies that regulate very specifically what instructors can and cannot do.' He went on to explain: 'if there is a chance to completely embrace a SCL environment, then it would go against a lot of those organisational barriers.'

In discussing leading sustainable change, some participants ($N = 9$) were cognisant of the supports and challenges within the university context at large. For example, Participant 4 contemplated his willingness to become a change agent, however, 'that's going to make a big shift in the university to have collaborations cross over the colleges.' Participant 10 shared similar perspectives on sustainability, in that 'it really needs to take root at the core of the organisation, not just a course here and there . . . the organisation as a whole has to embrace SCL.' Participant 22 also spoke of the importance of 'embedding SCL in the culture of the department, the college and the university . . . .it needs the involvement of all stakeholders.' He further explained how one initiative has been the establishment of a project-based learning team 'to encourage other faculty to join them.' While 'these kinds of efforts are in the right direction,' he asserted that 'the problem is in sustainability at the university level,' and contended that 'even with faculty who are willing and engaged, they can't continue by themselves, and in order for this programme to give impact, it needs a push to keep it moving forward.' In agreement, Participant 4 thinks that the sustainability of change will happen 'under one condition, that upper administration is going to continue to support this, then in terms of being effective and getting more people, it has to be at the system level,' and continued that 'if the support from above weakens, with a change of vision, then it might fail.'

## Discussion

This study explored the systems of influence on university teachers' professional agency for learning and learning sustainable change in a HE context. Accordingly, it addresses an apparent gap in the literature on the paucity of PD evaluation studies in HE, in comparison to the school context. Twenty-four university teachers took part in a long-term, multi-tiered PD programme which particularly aimed to infuse constructive alignment principles and SCL approaches. Spanning the phases of planning and implementing educational change, the programme was built on social constructivist theories of adult learning (King 2016, Chaaban *et al.* 2023) and complexity thinking perspectives (Strom and Viesca 2020, McMillan and Jess 2021). While certain core features of effective PD (Desimone 2009, Boylan *et al.* 2018, Taylor 2020) permeated the programme, professional learning and leading sustainable change occurred with large variations among the participants, similar to findings from school PD programmes (King 2016). The findings identified four interrelated and interacting systems of influence on professional agency, including: the individual, the PD programme, the department/college, and the university systems. This framework offers a heuristic tool for thinking about the influence of PD programmes on university teachers' professional agency for learning and leading sustainable change; that is during the design, implementation and evaluation of similar programmes in HE contexts. Figure 1 is a visual representation of this emergent framework, which summarises the findings in this study.

Conforming with complexity conceptualisations in the literature (Cochran-Smith *et al.* 2014, Strom and Viesca 2020, Garner and Kaplan 2021, McMillan and Jess 2021), these systems were found to interact and interrelate in complex ways and in different intensities for each participant. Within the individual system, participants revealed instances of their beliefs, knowledge and skills, past experiences, understandings, attitudes and affect as

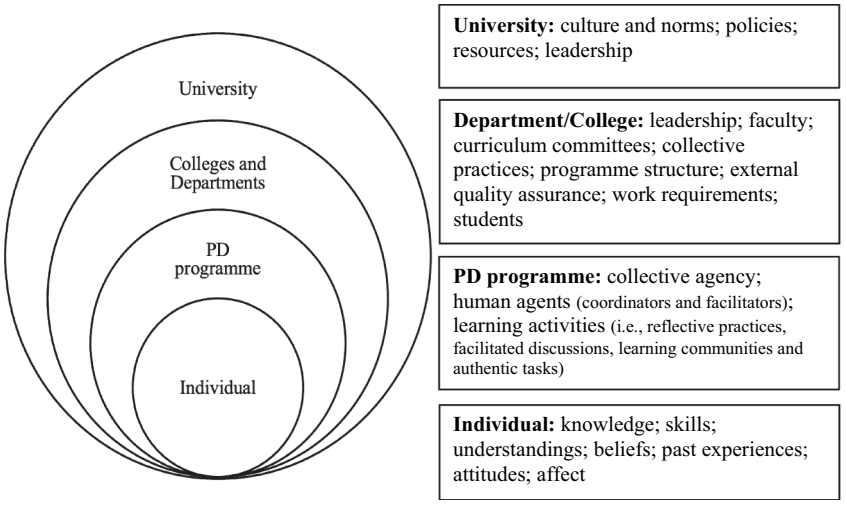


**Figure 1.** An emergent framework for the systems of influence on university teachers' professional agency for learning and leading sustainable change.

influencing what they learned from the PD programme, as well as their capacity and willingness to examine previously held beliefs, design innovative pedagogies and lead sustainable change. It was important for participants to understand the principles of the programme, to see its relevance in their contexts, and have compatible beliefs with its goals in order to enact intended change. The influence of the individual system on professional learning has been documented as the most significant predictor of change in previous studies (Opfer and Pedder 2011, Du *et al.* 2021). In this study, participants' positive perceptions towards professional learning influenced more readily their perceptions towards the PD programme as a system, represented by the nature of emerging relationships with the college facilitators and PD coordinators, the time and effort needed, and the availability of resources, which became the drivers of instigating change (Priestley *et al.* 2015, King 2016). In a similar vein, King (2016) discusses the design of PD as an influential factor in its implementation and sustainability, thus alluding to the importance of giving much attention to several design principles, specifically the availability of collaborative opportunities and feedback loops (Strom and Viesca 2020).

Nevertheless, these perceptions representing the *subject-centred* dimension of the professional agency framework adopted in this study (Eteläpelto *et al.* 2013, Vähäsantanen *et al.* 2020) were necessary yet insufficient conditions. The second dimension of the framework constituting the socio-cultural contexts, revealed insights into the way participants' professional agency encompassed the choices and decisions made during the planning and implementation phases, including how they responded to challenges, how they interacted with other actors, and how they took purposeful actions to initiate change and handle conflicting perspectives, but also when and to which extent they were successful. Unlike university teachers in a Finnish context (Hökkä *et al.* 2017, Vähäsantanen *et al.* 2020), participants experienced more *fetters than freedom* in enacting change in their work. As an illustrative example, Participant 1 developed positive perspectives towards professional learning during the course of the programme and became an ardent advocate of its principles. However, his convictions were overlooked by college leadership when he requested autonomy to make transformational changes to his course syllabus.

Similar tensions between individual and institutional positions are common in the literature (van Schalkwyk *et al.* 2015), such that the structures and cultures of HE institutions constitute a hindrance to university teachers' ability to take overarching actions and make independent

choices. These tensions tend to emerge when there is an apparent mismatch between espoused institutional values and the day-to-day practices of university teachers (Taylor 2020). Despite the endorsement of this PD programme from senior leadership, it may have been necessary to further engage in open communication with department- and college-level leadership teams, which have a direct influence on teaching practices. Given the highly-structured and hierarchical nature of many HE institutions, support for professional learning should thus be secured and offered across the multiple nested systems (Cochran-Smith *et al.* 2014, Englund *et al.* 2018).

As the immediate context in which changed practices would materialise, the department/college system offered an amalgam of supports and constraints to participants' professional agency. Concerns pertaining to university students' readiness, skills, attitudes and academic integrity reiterated findings from other studies, which have investigated the compatibility of SCL approaches with Middle Eastern students (Du *et al.* 2020). These findings further emphasise the need to cater to the particular characteristics of the student body, to whom the outcomes of a PD programme are ultimately channelled. Another salient factor impeding change was the need to obtain approval from curriculum committees, which was described as a complicated and lengthy process in this context. An important conclusion is that PD stakeholders need to have a deeper understanding of these cultural factors, such as the working context, supportive networks and leadership within the department or college, as well as the structural conditions, such as the requirements of external evaluation bodies and political environment (Englund *et al.* 2018). The emergent framework, depicted in Figure 1, may provide a departure point for new empirical questions and methods, guiding PD providers and researchers towards the processes of change they should trace as university teachers learn to enact innovative practices (Cochran-Smith *et al.* 2014, Hökkä *et al.* 2017).

Lastly, the university as a complex adaptive system influenced participants' professional agency, particularly through micromanaging policies, organisational culture and leadership support. The findings also emphasised the notion of sustainability within this system, more visibly than in any other system. For several participants, the continued support from senior leadership for the PD programme would ensure its sustainability, such that any waning support will jeopardise its subsistence. This finding contradicts similar studies, which have found sustainability measures to reside in the individual system, depending particularly on university teachers' identity negotiations, commitment and resilience (King 2016, Du *et al.* 2021). Notwithstanding the importance of individual system, these mixed findings allude to the need for further research investigating the notion of leading sustainable change, despite indications pointing towards the authority and political will of the university system.

## Conclusion

University teachers' professional agency for learning and leading sustainable change can be supported within systems that accounts for complexity, engagement and empowerment. This PD programme design and implementation may offer inspiration to other universities who wish to promote professional agency for learning in HE contexts where university teachers engage in innovation, active implementation and reflection. The complexity perspective, adopted in this study, may further allow PD providers and researchers to observe, as we did, the causal chains, relationships and pathways of professional learning, and in certain instances to explain why professional learning may or may not occur.

Future work may benefit from the emergent framework presented in this study for designing and evaluating PD programmes. This study thus provides empirical evidence for the complexities inherent in educational change and the need for considering a multitude of factors that can advance the field from mere acknowledgement and awareness of the core design principles to one that can result in sustainable change. Our findings confirm previous work in this field, including the

importance of the agentic capacities and willingness of individuals embedded within enabling environments (Eteläpelto *et al*. 2013, King 2016), while professional agency is seen as a distributed phenomenon among the interacting systems of influence (Strom and Viesca 2020). A nuanced understanding of these systems on university teachers' professional agency is only the beginning. Future research on PD programmes should continue to take a holistic approach considering the systems of influence framework presented in this study, while avoiding dominant input-output models.

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## Consent to publish

The authors give their consent for the publication of this paper.

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