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# What makes professional teacher development in universities effective? Lessons from an international systematised review

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## ABSTRACT

The professional development landscape for university teachers has shifted from focusing solely on self-development, to maximising engagement with activities that are developmental, on-going and systematic. A systematised literature review reveals the composition, design and purpose of professional development for teachers within university settings is diverse. Drawing on literature from an international context, this review offers a broader perspective on what makes professional development effective, widening our understanding to include what teaching professionals themselves value and prioritise. Using 16 peer-reviewed articles between 2012 and 2022, the diversity of professional development is explored across 13 different international perspectives. The findings show that pedagogical collaboration, in the form of peer review teaching and the development of communities, is valued amongst university teachers due to their intimate dialogic nature. Factors such as relevance, structure and voluntary participation were themes discussed influencing the engagement and motivation for university teachers to self-develop and attend professional development. Finally, we acknowledge the variability between international universities, such as resources and cultural differences, and how this might influence the perception of professional development amongst university teachers.

## ARTICLE HISTORY

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## KEYWORDS

University teacher development; professional development; systematised review; engagement and motivation; pedagogy

## 1. Introduction

The professional development of teachers in university settings has been a topic of substantive debate over the past decade. The concept has been variously described: both from the normative stance of ‘staff development’ or ‘in-service training’ that focuses solely on the enhancement of knowledge (Saberri and Amiri 2016), and as a nebulous, indefinable notion that evolves with individual teacher needs (Sancar *et al.* 2021). Some educational researchers have defined the purpose of professional development as the promotion of teacher quality, through peer observation, providing informative feedback, and self-guidance towards the mastery of new skills (Darling-Hammond 2021, Plucker and Callahan 2021). Others have stressed the importance of personal reflection on learning experiences, as well as collaborating with others to generate critical thinking (Webster-Wright 2009, Svendsen 2016). In general, it can be conceived as a systematic, longer-term process that guides teachers to fulfil their role holistically (Villegas-Reimers 2003, Pokhrel and Behera 2016).

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Professional development is increasingly a feature of university institutions worldwide (Suwaed and Rahouma 2015, Jääskelä *et al.* 2017, Phothongsunan 2018, Dilshad *et al.* 2019). This review draws deliberately on international literature, which proffers a range of perspectives on the purpose, content and implementation of professional development. The way in which professional development is conceptualised differs amongst educational cultures across the world, driven by both national government standards and institutional expectations. For example, the Department for Education (2016) in the UK suggests that effective professional development develops theoretical, practical and pedagogical knowledge that draws on evidence to support the robust delivery of teaching, whilst others claim that professional development is under-prioritised (Alma Economics 2022) and unrelatable to day-to-day practice (Svendsen and Marion 2014). In the United States of America (USA), university teachers adhere to the National Board for Professional Teaching Standards, underpinned by five core propositions including student-centred outcomes, commitment to student learning, having a competent knowledge base, and being responsible for managing, monitoring and reflecting upon learning environments. In contrast, universities in Singapore adopt a self-management approach where innovation and entrepreneurship are encouraged, resulting in motivated, dynamic teachers who are skilled within leadership (Darling-Hammond 2021). There is considerable value, then, in reviewing the international literature on professional development of university teachers.

To identify what makes university teachers' professional development in university settings *effective*, we must clarify how we interpret effectiveness. The normative view on professional development dictates that it is effective when it promotes teaching quality and enhances student outcomes, such as attainment, continuation, and progression. Although we acknowledge that teaching quality can indeed be influenced by professional development, we concur with Broer (2019) and Hattie (2001) that it is notoriously difficult to measure objectively and assign correlation with outcomes in any meaningful way.

Another interpretation of professional development is teachers' interrogation of, and innovation in, their own practices of teaching and learning (Potter and Kustra 2011). The extensive Scholarship of Teaching and Learning (SoTL) field has long grappled with identifying the link between the act of scholarship (reflection on, and changing of, teaching and learning practices, as defined by Fanghanel *et al.* 2016), and the *effectiveness* of this process. Fung (2016) asks how we can know that this scholarship improves student outcomes rather than simply changing practice and proposes a broader argument that 'good education', framed through the German concept of *Bildung*, might be brought about through a more collective approach of strength-based scholarship of teaching practices. We harness this broader perspective to frame the effectiveness of professional development. Thus, the aim of this review was to investigate and identify the factors that make professional teacher development effective within international university settings.

## 2. Methodology

The conceptual framework of any systematised literature review contains epistemological assumptions about the generation and validity of knowledge. An interpretivist (Alhojailan 2012) and configurative approach was adopted that acknowledged that the content sourced would be subjective and contingent (Armstrong 2010, Newman and Gough 2020). The systematised review shares a similar process with the standard systematic review, although it does not adhere to such strict rules and is often conducted with one researcher (Grant and Booth 2009). It facilitates the collation of knowledge, through which the identification of common findings can inform practice and make recommendations for future international research (Tümkeya and Miller 2020, Brennan *et al.* 2021, Louis 2022).

**Table 1.** Selection criteria.

Inclusion criteria	Exclusion criteria
Peer-reviewed articles of primary research between January 2012 and 2022.	No studies prior to January 2012 will be included in the study.
Published articles from UK and other countries to provide international perspective.	No studies that do not link specifically with university teacher development. Those that link to Higher Education (HE) and Further Education (FE) are not considered specific to the study due to the possible contextual difference between the term's "university", "HE" and "FE".
Not limited to specific type of study design – open to both qualitative and quantitative data.	No studies published in a different language to English.
Full text availability	

## 2.1. Systematised review design and search process

A formal process was followed to source and appraise the literature available, and the search strategy involved strict selection criteria. The key search term 'university teacher development' was requested in the title and abstract of the EBSCOhost academic database. Limiters were applied (Table 1). This generated a return of 215 peer-review articles, of which 193 were not fit for purpose for the review due to their topics outside of the research area and/or were a duplication. Relevancy was determined by whether the data referred to university teachers in university settings to previous ambiguity. As peer review articles represent a standard of scholarly publication, utilising research that has been scrutinised provides validity to topic discussions. To prevent researcher bias, each title and abstract of the remaining articles was read thoroughly to examine the purpose of each study in accordance with inclusion and exclusion criteria. This resulted in the 16 journal articles highlighted in Table 2, a notably small number that recognises the broader challenge of finding correlations that are representative of an international sample.

## 2.2. Data analysis

Retained research articles were analysed using the six-phase thematic analysis model developed by Braun *et al.* (2016). Although it is mainly utilised for analysing primary qualitative data, thematic analysis allows for all types of data information to be brought together to be interpreted, cross-referenced and themed (Alhojailan 2012, Braun *et al.* 2016). To *make sense* of the information, we examined and compared data from the abstract, methodologies and discussion chapters of each article. We conducted two rounds of coding to utilise and organise all data, encouraging the researchers to be freshly engaged with the data (Devine 2021). Core information was noted in a succinct structure to provide a rudimentary comparative analysis (Table 2) (Alhojailan 2012). Being mindful of the need to mitigate the researcher bias that is possible in interpretative analysis, a thematic map was developed through using a systematic coding process (Figure 1). Many codes were identified through analysis, but only data that looked to address the subject of the research was used in the final review (Braun *et al.* 2016).

## 3. Discussion

Through reviewing the literature from thirteen different countries, three core patterns were identified that contribute to our understanding of the effectiveness of university teacher professional development. The core themes were; the range of pedagogical interventions that constitute professional development activities, the ways in which teachers are motivated towards self-development, and the formats of engagement through which professional development is delivered. The broadness of the topic areas that are discussed demonstrate the range of variables that impact both the perceived value and effectiveness of professional development on teaching practice.



**Table 2.** Comparative search strategy analysis.

Published	Referenced study	Location	Sample context	Sample size	Type of data	Analytic theme
2022	Wennerberg and McGrath (2022). Breaking the isolation: A study of university teachers' collective development. <i>Journal of Praxis in Higher Education</i> , 4(1), 7–27. <a href="https://doi.org/10.47989/kpdc110">https://doi.org/10.47989/kpdc110</a> .	Sweden	University teachers. 9 were women. 7 were men (although not mentioned as clearly). Varied experienced of 1–30 years. Smaller departmental unit within one of Sweden's largest universities.	16 respondents in groups of 4 to 6 respondents on three separate occasions in 2018 (semi-structured interviews). Sent survey to all participants to provide another opportunity.	Qualitative – Semi-structured interviews	Pedagogical interventions – Collegial and collective competency development
2020	Brouwer <i>et al.</i> (2020). The development of communication networks of pre-service teachers on a school-led and university-led programme of initial teacher education in England. <i>International Journal of Educational Research</i> , 100, 101542. <a href="https://doi.org/10.1016/j.ijer.2020.101542">https://doi.org/10.1016/j.ijer.2020.101542</a> .	England	Secondary Initial Teacher Training at university setting - one institution. 37 mathematics (18 female) and 40 science (20 female)	77 participants	Quantitative – descriptive statistics from survey design Longitudinal study	Motivation of self-development (self-efficacy, personal attributes, communication lenses)
2016	Doghonadze (2016). The State of School and University Teacher Self-Development in Georgia. <i>International Journal of Research in Education and Science</i> , 2(1), 104–113. <a href="https://doi.org/10.21890/ijres.30667">https://doi.org/10.21890/ijres.30667</a> .	Georgia - USA	School teachers and university teachers to gain comparative perspective. 58 school teachers from 5 schools, 56 university teachers from 7 universities.	80 questionnaires sent, 57 returned when personally distributed. 57 completed via Survey Monkey. Total – 114 questionnaires completed.	Quantitative – questionnaire with Likert scale, multiple choice or mixed format.	Motivation of self-development
2021	Jaramillo-Baquerizo <i>et al.</i> (2021). Exploring the consideration of university teachers' basic psychological needs in the design of professional development initiatives. <i>Journal of Higher Education Policy and Management</i> , 43(3), 315–329. <a href="https://doi.org/10.1080/1360080x.2020.1812021">https://doi.org/10.1080/1360080x.2020.1812021</a> .	Ecuador	16 Ecuadorian authorities in charge of professional development for their teachers from 12 Ecuadorian universities (5 private and 7 public). Chosen on academic rank and geographical location. 10 universities categorised with affluent/main cities, and 2 vulnerable/historical areas.	16 interviews – face to face – approx. 1 hour.	Qualitative – Semi-structured interviews.	Motivation of self-development
2015	Suwaed and Rahouma (2015). A New Vision of Professional Development for University Teachers in Libya "It's Not an Event, It is a Process." <i>Universal Journal of Educational Research</i> , 3(10), 691–696.	Libya	University teachers. 4 females, 16 males. Experience ranged from 1–18 years of teaching. Huge scale university (number of campuses, students and staff).	20 teachers working in Arts, Science, Engineering and Medical colleges.	Qualitative – Semi-structured interviews.	Motivation of self-development

(Continued)

Table 2. (Continued).

Published	Referenced study	Location	Sample context	Sample size	Type of data	Analytic theme
2019	Dilshad <i>et al.</i> (2019). Continuous Professional Development of Teachers: A Case of Public Universities in Pakistan. <i>Bulletin of Education and Research</i> , 41(3), 119–130.	Pakistan	University teachers. Male (56%), female (44%). Lecturers (47.8%), Assistant Professors (30%), Associate Professors (14.6%), Professors (7.5%). 61% had 1–10 years teaching experience. 63% (Arts), 37% (Sciences) 5 public universities – utilised 4 faculties of each. Convenience sampling.	700 participants were accessed. 82.14% return rate. 575 total respondents.	Quantitative – questionnaire.	Engagement with professional development
2016	Ndebele <i>et al.</i> (2016). Rurality and the professional development of university teachers. <i>South African Journal of Higher Education</i> , 30(6), 127–145.	South Africa	University teachers in two rurally-based, historically disadvantaged South African institutions.	Semi-structured interviews with 5 members of senior management, 10 academics. 15 participants overall.	Qualitative data from institutional self-evaluation reports. Semi-structured interviews.	Engagement with professional development
2015	Nevgi and Löfström (2015). The development of academics' teacher identity: Enhancing reflection and task perception through a university teacher development programme. <i>Studies in Educational Evaluation</i> , 46, 53–60.	Finland	University teachers who have gained a teaching qualification. Various types of data (approaches to teaching inventory, interviews and teaching programme reports) were collected over 5–6 years. Free to take part in programme.	11 academics – started at the beginning of the 2000's.	Quantitative and qualitative. Semi-structured interviews. During interviews, participants filled out an Approaches to Teaching Inventory and the Teaching Efficacy Scale.	Academic and teacher 'identity'
2018	Phothongsunan (2018). EFL University Teachers' Professional Development in the Thai Context. <i>Arab World English Journal</i> , 9(2), 283–297. <a href="https://doi.org/10.24093/awej/vol9no2.19">https://doi.org/10.24093/awej/vol9no2.19</a> .	Thailand	University teachers serving in public universities in Thailand.	30 participants – University teachers teaching EFL. Female (23) and Male (5). Varied teaching experience from 2 to 20 years.	Open-ended questionnaire and semi-structured interviews afterwards.	Motivation of self-development
2021	Noben <i>et al.</i> (2021). How is a professional development programme related to the development of university teachers' self-efficacy beliefs and teaching conceptions? <i>Studies in Educational Evaluation</i> , 68, 100966. <a href="https://doi.org/10.1016/j.stueduc.2020.100966">https://doi.org/10.1016/j.stueduc.2020.100966</a> .	Poland	University teachers. Average teaching experience was 14 years. 36 participants had a PhD. 3 had Masters.	39 participants. 28 were female, 11 were male.	Longitudinal convergent mixed methods design – quantitative and qualitative data. Web-based survey – pre and post programme. Semi-structured interviews.	Motivation to self-development (self-efficacy lens)

(Continued)



Table 2. (Continued).

Published	Referenced study	Location	Sample context	Sample size	Type of data	Analytic theme
2020	Glaés-Coutts (2020). University-Supported Networks as Professional Development for Teachers in School-Age Educare. <i>International Journal for Research on Extended Education</i> , 8(1–2020), 66–79. <a href="https://doi.org/10.3224/ijree.v8i1.06">https://doi.org/10.3224/ijree.v8i1.06</a> .	Sweden	Linnaeus University networks over a 4-year period. 150 responses were collected from six sessions held in this time.	150 responses from questionnaires. Interviews with 4 teachers who participated in the brainstorming session.	Qualitative data from three sources: questionnaires, brainstorming session, interviews.	Pedagogical interventions – Collaborative learning
2019	Jaramillo-Baquerizo <i>et al.</i> (2019). Professional development initiatives for university teachers: Variables that influence the transfer of learning to the workplace. <i>Innovations in Education and Teaching International</i> , 56(3), 352–362. <a href="https://doi.org/10.1080/14703297.2018.1479283">https://doi.org/10.1080/14703297.2018.1479283</a> .	Ecuador	University teachers. 12 Ecuadorian universities based on academic rank and geographical location. 12 universities from 4 cities: 5 private, 7 public.	16 participants.	Qualitative data from interviews.	Engagement with professional development
2017	Jääskelä <i>et al.</i> (2017). Supporting and constraining factors in the development of university teaching experienced by teachers. <i>Teaching in Higher Education</i> , 22(6), 655–671. <a href="https://doi.org/10.1080/13562517.2016.1273206">https://doi.org/10.1080/13562517.2016.1273206</a> .	Finland	University teachers in Finland's multidisciplinary network at one of Finland's largest research universities. Participants were utilised if they had used the network from 2011–2014.	51 participants. 26 semi-structured interviews utilising 51 participants.	Qualitative data from semi-structured interviews.	Engagement with professional development
2021	Fabriz <i>et al.</i> (2021). How a programme for university teachers impacts their teaching-related self-efficacy, self-concept, and subjective knowledge. <i>Higher Education Research &amp; Development</i> , 40(4), 738–752. <a href="https://doi.org/10.1080/07294360.2020.1787957">https://doi.org/10.1080/07294360.2020.1787957</a> .	Germany	University teachers.	73 participants.	Self-reported data.	Motivation to self-development (self-efficacy lens)

(Continued)

Table 2. (Continued).

Published	Referenced study	Location	Sample context	Sample size	Type of data	Analytic theme
2016	Saberi and Amiri (2016). A Qualitative Study of Iranian EFL University Teachers' Attitude towards Professional Development. <i>Journal of Language Teaching and Research</i> , 7(3), 591. <a href="https://doi.org/10.17507/jltr.0703.22">https://doi.org/10.17507/jltr.0703.22</a> .	Iran	University teachers. 9 participants were English teaching at Marvdasht Azad University holding MA or PhD. All had at least 8 years teaching experience.	9 participants.	Qualitative data. Structured interview.	Engagement with professional development
2015	Shousha (2015). Peer Observation of Teaching and Professional Development: Teachers' Perspectives at the English Language Institute, King Abdulaziz University. <i>SSRN Electronic Journal</i> , 6(2), 131–143. <a href="https://doi.org/10.2139/ssrn.2834383">https://doi.org/10.2139/ssrn.2834383</a> .	Saudi Arabia	Study conducted in 2013–2014. University teachers from one university in Saudi Arabia.	13 university teachers.	Quantitative data. Structured questionnaire.	Pedagogical Interventions – Peer observation



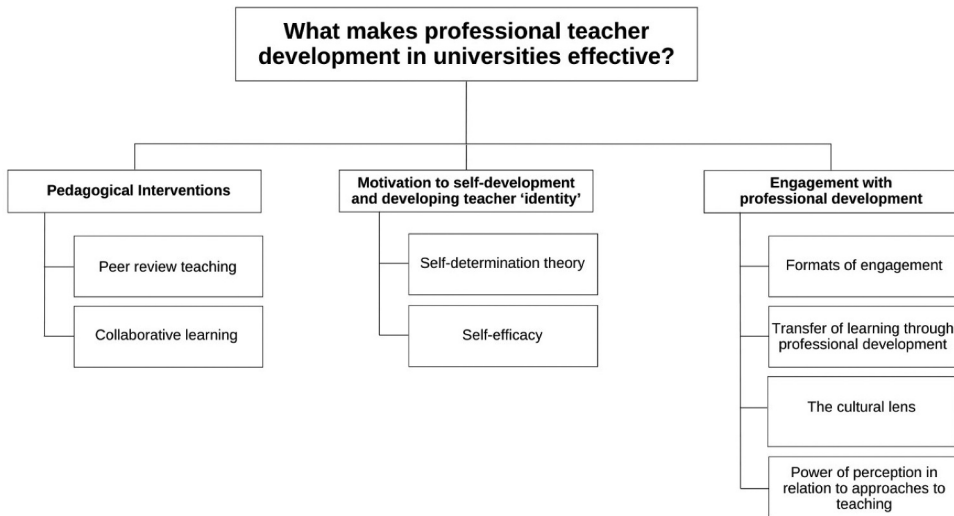


Figure 1. Thematic map.

### 3.1. Pedagogical interventions

Professional development comprises a range of learning opportunities and resources to improve teaching quality, including academic degrees, conferences, workshops and supervision (Bernstein 2008, Wise 2014, de Lange and Wittek 2020). The selection of these pedagogical interventions is influenced by academics' own agendas, whose choice of career and educational trajectories depend on their priorities (McGrath 2020). A range of interventions was encountered within this review, but we focus here on those more collectivist approaches, notably peer-review and the collaborative nature of learning through communities of practice.

#### 3.1.1. Peer review teaching

The design of peer review teaching has evolved over time, with the impact on teaching practice being a key indicator of effectiveness (Richard *et al.* 2019). Peer reviews are also known as portfolios (Bernstein 2008), formative and summative evaluations (Centra 1993) and peer observations (Engin 2016). Wennerberg and McGrath (2022) recognise the challenge of the ambiguous interpretation of 'peer-review teaching'. This includes the traditional understanding of peer observation as a top-down model of annual teacher evaluation and raises the question of their existence within university structures (University and College Union *n.d.*).

The scope for utilising peer-review teaching as a pedagogical intervention differs between institutions. Peer review faces challenges that relate to what teaching quality looks like (Esterhazy *et al.* 2021) and staff reluctance due to anxiety driven by the power-dynamic of the feedback process. McMahon *et al.* (2007) argue this is influenced by the interpreted purpose of professional development, context of roles, and the ethos that institutions have.

The concept of a collective, developmental approach to peer review that prompts reflective conversations, rather than a graded system, has evolved more recently as a mode of professional development (O'Leary and Price 2016, Wennerberg and McGrath 2022). O'Leary and Savage (2020) discovered 'partnership observation' and emphasise that variations in trust, understanding of individual needs and commitment to the process can reduce the effectiveness of peer review. The formality of the observation is also criticised, whereby high levels of formality can be perceived as related to performance management agendas, therefore adding little value to the purpose of professional development. In contrast, informality can invite accusations of lack of criticality and rigour (Thomson *et al.* 2015).

Wennerberg and McGrath's (2022) study in Sweden provides a rich exploration of the nature and efficacy of peer review teaching as a mode of professional development. They encouraged participants to take part in peer review teaching, which provided an opportunity for collaboration that enabled teachers to feel more confident with their own teaching pedagogy and their role within the workplace (Bell and Cooper 2013). They found that relationships were strengthened with colleagues that were not considered friends, suggesting less collaboration with those they perceive closest to them, and supporting de Lange and Wittek's (2020) claim that trust is integral to collegial development.

Similarly, Shousha (2015) explored the impact of introducing peer review teaching within a Saudi Arabian university but, in contrast to Wennerberg and McGrath (2022), their study involved teachers developing their own peer review exercise with other teachers, rather than being provided with resources to follow. This included agreeing an observation protocol and an instrument of evaluation to be used as a guide during the observation. The purpose was to help teachers develop themselves professionally and support other colleagues with their teaching practice. Of the six different ways that university teachers accessed professional development (reading books and journals, attending and presenting workshops, peer observation, taking qualifications, watching YouTube videos and sharing experiences through online communities of practice), sharing experiences was mentioned least frequently and undertaking academic qualifications was found to be the most popular means of accessing and evidencing professional development. All teachers stated that peer observation was important, mentioning that it was an opportunity to interact, collaborate and learn from other colleagues. The collaborative approach to professional development was the least mentioned, suggesting teachers do not collaborate without a structured development programme in place. However, as a result of the study's intervention, over three quarters of participants felt more motivated and willing to collaborate with others.

The concept of a 'critical friend' was highlighted by Wennerberg and McGrath (2022) within the dialogue process of their proposed collegial approach to peer review. The concept focuses on the relationship, generating mutual trust, friendship and appropriate challenge within a one-to-one interaction as a form of feedback (Baskerville and Goldblatt 2009). It acknowledges the idea of teacher isolation, recognising that teaching can occur in an unsociable landscape. It proposes the connection with other colleagues, encouraging psychological and social benefits alongside sharing reflective practice. The study suggested benefits for the wider landscape of university teachers, as more experienced colleagues were reminded of the value of reflecting on their teaching practice. McGrath's previous research (McGrath 2020) found that the more experienced a teacher was, the less they reflected on their current practice. Within the study, friction was noted during feedback dialogues when academics were either not interested or did not agree with the peer reviewer's perspective. Interestingly, participants were able to choose who they wanted to undertake professional development with but had to follow specific structures of the developmental activities.

The study found, however, that those who did not believe in the structure of the dialogic activities experienced tension, discomfort and nervousness. Institutional culture may also affect a participant's view on adopting the model (de Lange and Wittek 2020). Furthermore, Shousha (2015) acknowledged that training must be provided to become a 'critical friend' or to occupy a position of feedback 'power'. The need for training on observational skills and giving constructive feedback was a recommendation for future investigation, chiming with the findings of other external studies such as Bozak *et al.* (2011) who discuss the need for educators to be trained in communication in order to undertake peer review teaching. Although these conclusions from both Wennerberg and McGrath (2022) and Shousha's (2015) studies provide opportunity for institutions to reflect upon for future professional development delivery, there is a lack of informative direction or definition on what 'good training', or 'competency' might look like for those undertaking feedback roles within this format. This raises the spectre of institutional consensus of what 'good teaching' is, due to its ever-evolving nature, with reviewed research and situational enhancements being relied upon the most to inform future professional

development. As such, it remains unclear as to how peer review teaching can best be implemented within university settings.

A broader link to creating social connections and exploring pedagogical interventions is the widely researched topic area of *academic identity* (e.g. Hockings *et al.* 2009, Kreber 2010, Skelton 2012, Nevgi and Löfström 2014). Nevgi and Löfström (2015) considered academic identity and found that not every academic within a university setting has the desire to be identified as a ‘teacher’. Academics acquire a range of roles and dimensions within their position, with some primarily based within research performance, output and competence. In contrast, others may have teaching-based contracts with direct responsibility for degree programmes. This contrast in contractual experiences may distinguish the type of environment the institution creates (McMahon *et al.* 2007). Research driven environments may leave teacher identities underdeveloped and academics left to figure out what ‘good’ teaching looks like. Likewise, if an institution is driven by teaching and learning excellence, pedagogical knowledge may be developed more than those research skills required by those who identify as researchers. Skelton (2012) argues that academics can find themselves with multiple identities as a result, often contradicting each other. One of the ways in which academics negotiate their multiple academic identities is through learning collaboratively.

### **3.1.2. Collaborative learning**

Collaboration allows teachers to play an active part in their learning process, which in turn has been shown to have impact on teaching practice and to enhance engagement (Qureshi *et al.* 2021). The studies from Wennerberg and McGrath (2022) and Shousha (2015) suggest there is collaborative benefit through developing relationships within smaller conversational formats, such as one-to-one or one-to-two participants. It also acknowledges that a level of consideration is needed for other types of professional development such as workshops that may have larger audiences, posing questions as to whether there is a participant limit on collaborative learning, and how effective it may be to utilise as a form of professional development if smaller formats do have extensive benefits.

The review yielded evidence that structured professional development activities afford space and opportunity to dialogue and collaborate with colleagues, but that finding the right balance of structure and agency makes the difference to how effective the development is for the participants. Glaés-Coutts (2020) Swedish study over a four-year period found that professional development happens effectively within a community of practice. The researcher developed an informal approach to professional development, underpinned by principles of democracy, equality and equity, and informed by current research within education. Communities of learning evolved, where the group themselves negotiated the purpose and format of the group. Participating in a community network group is a format of learning (Lave and Wenger 1991), and Glaés-Coutts (2020) found that mutual engagement and shared knowledge provided strength behind the concept. Sessional questionnaires were gathered from 150 participants over the study period; participants acknowledged the value of exchanging ideas, learning about colleagues’ problems and strengths of practice and concentrating on specific needs for teachers with the same audience of learners.

We concluded from the studies in this part of the review that where teachers participated in a collaborative space, they predominantly found it a supportive network that strengthened their ability to teach. Structure can therefore be considered a fundamental component of the design of effective professional development.

### **3.2. Motivation toward self-development and developing teacher self-efficacy**

Professional development is not only concerned with the acquisition of knowledge, but with the development of experience, skills and personal attributes needed to fulfil academic duties (Bertani

and Tafel 1992). Diaz-Maggioli (2004) suggests that the traditional perspective of professional development was of frequent coffee breaks and formal outfits. They argue that university teachers were 'forced' into professional development that was heavily theoretical and unrelatable to the classroom environment, resulting in a lack of motivation.

Motivation has been consistently identified as a key factor that influences training outcomes. It is considered that just 10% of learning from a professional development workshop transfers back into the workplace environment (Fitzpatrick 2001, Kupritz 2002) and investigating what optimally motivates participants is crucial to understanding what constitutes effective professional development. Applied to university teachers, if limited transferable learning into their practice can be identified, their motivation to engage with professional development is likely to be diminished.

Several studies were found that addressed motivation within professional development of university teachers. In Georgia, USA, Doghonadze (2016) discussed intrinsic and extrinsic motivation. They found that 114 university lecturers were intrinsically motivated to engage in self-development in a variety of ways, such as seeking new experiences within their institutions alongside teaching and reading relevant topics. Extrinsic motivation came in the guise of a contractual requirement every four to six years to engage with training initiatives outside of their role alongside undertaking research. Motivation was higher when university teachers found professional development to be challenging, flexible, relevant and applicable to their teaching, alongside enhancing their self-esteem. The format of the self-development varied, with a blend of individual and peer-based tasks. The data revealed that a high percentage of university teachers preferred to learn on their own, with one mentioning 'when flying alone, you have more chance to fly higher' (Doghonadze 2016, p. 109). Although the voluntary participants were part of a larger sample, Doghonadze's work supports Wennerberg and McGrath's (2022) extrapolation from their small qualitative study that the current academic profession is generally isolated and unsupportive of collaborative forms of professional development. This negative slant contradicts previous conclusions of the value of collaborative learning (Shousha 2015, Qureshi *et al.* 2021, Wennerberg and McGrath 2022). There is clearly scope for a professional development syllabus created *by* teachers, rather than *for* teachers, which might combat the balance of participation and perceived value and incorporate both independent and collaborative activities.

In Libya, Suwaed and Rahouma (2015) found that although the unstable nature of the country highlighted cultural challenges, their model-based approach to professional development combatted low motivation. With this, academics were disappointed with the limited opportunities offered to them, with most identifying workshops and courses as most valuable. This differs from Doghonadze's (2016) approach of understanding what teachers valued and what 'worked' for them. In terms of self-development, Opfer *et al.* (2011) believe participants are more likely to seek self-development the more unsatisfied they are, which contradicts views of professionals struggling to engage in their own practice. This shows a potential difference in international and cultural attitudes and suggests that the more limited resources are, the more academics are likely to look elsewhere to fulfil their role requirements from a developmental viewpoint.

### 3.2.1. Self-determination theory

Understanding the underpinning purpose of any professional development is important in teachers' motivations towards self-development. In a public university in Thailand, Phothongsunan (2018) found the underlying motive was career enhancement that resulted in financial gain. Gender bias played a role in this conclusion, with 75% of the sample being female. Nevertheless, it presents a perspective that motivation is influenced by tangible incentives. Thai professional development develops opportunities for both tangible (degrees) and non-tangible (ideas) outcomes, demonstrating the usefulness of its inclusion to this review. Dilshad *et al.* (2019) also supported this in his study highlighting a link with self-efficacy. He noted reading books enhances subject knowledge, and producing research papers improves reputation and credibility. This study builds on the idea that professional development must be relatable and applicable to generate engagement and motivation.

It also highlights scope to investigate Thai learning structure and the design of professional development to evaluate its effectiveness further. They look to upgrade their educators' expertise to maintain reputation but equally have issues surrounding excessive teacher workload and institutionalised politics that can prevent educational growth (Phothongsunan 2018).

In their work on self-determination theory (SDT), Ryan and Deci (2017) argue that the environment is the source of sustained, engaged and motivated learning. The theory affords the view that there will be a higher chance of teachers engaging with professional development if their basic psychological needs are met through feeling free to think independently, feeling competent in their job role and feeling connected to those around them and to the topic area. It is thought that such supportive environments can be fostered, although it means that a consistent collaborative approach is required to meet the demands of the ever-changing staff body that the university sector experiences (Lord 2022). There is substantial research on how an optimal learning environment is created for students (Reeve 2016), but limited evidence on how to create a supportive environment for teachers in the context of professional development (Glackin 2018).

In a study from Ecuador, Jaramillo-Baquerizo *et al.* (2021) framed motivation from a psychological needs-based perspective, concluding that the design of professional development is fundamental to its perceived value from academics. Doyle *et al.* (2018) suggests it should be learner-centred, where strength and development areas are discovered. Yet, De Rijdt *et al.* (2014) proposes a management-based model where senior academics in the institutions lead on delivery, which could be problematic based on meeting psychological needs. Jaramillo-Baquerizo *et al.* (2021) highlights the challenges of striking the balance between communicating institutional needs (staff briefings and regulatory policies for example) and delivering on topics that directly meet the practice needs of university teachers. This represents a vertical design approach, whereby participants are encouraged to listen rather than involve themselves in the developmental activity. This not only provides limited opportunity for teachers to reflect (Hill *et al.* 2013) but also supports the idea that professional development should be more learner centred. Teachers are more likely to self-endorse when they are given a choice of topic areas with which to engage, as well as opportunity to reflect upon how the topic relates to them and their practice. Jaramillo-Baquerizo *et al.* (2021) found that when individuals feel pressure to engage in professional development, it can be interpreted through self-determination theory where participants are frustrated with limited choice, feel self-doubt about their knowledge and feel unconnected with the deliverers. With basic psychological needs un-met, motivation decreases and defiance increases (Vansteenkiste and Ryan 2013).

Furthermore, Jaramillo-Baquerizo *et al.* (2021) study suggests that when discussing the motivation to engage with professional development, the external (extrinsic) institutional pressures must be considered. In Ecuador, the accreditation processes driven by the government strongly shape the design of the professional development that is delivered. As a result, teachers may feel more pressure to shape their practice to accredited standards which may limit their own individual personal and professional development of their practice resulting in limited pedagogical improvement. Over a third of the interviewed participants stated they needed to feel a sense of competence from professional development, through learning new skills in pedagogy to implement successfully. To do this, teachers need to feel confident to transfer this into their practice. Thus, the design of professional development should provide challenging tasks, immediate feedback and consistently clear instructions. Design should balance what is institutionally expected with the creation of an environment that empowers teachers to develop their own approach.

In relation to empowerment, teachers can feel constrained by institutional policy and standardisation (Kavanagh and Ari 2018), and as such become detached from their own teaching practice and professional development formats that may influence. For example, institutions may direct a specific way or structure of learning. This segues into the concept of transformative teachers who embrace change and disrupt narratives that are unproductive to their development. How a teacher views themselves personally and professionally can thus impact the development of this concept in a professional development environment.

### 3.2.2. Self-efficacy

The twin concepts of self-efficacy and teacher identity are thought to influence the perception a teacher has of professional development. Previous studies have suggested that professional development increases self-efficacy (Pekkarinen and Hirsto 2017, Tenzin *et al.* 2019, Ibrahim *et al.* 2020) when activities are teacher centred. This supports Fabriz *et al.* (2021) study that argues the design and focus of professional development should focus predominantly on the needs of those attending. A Polish mixed-methods study conducted by Noben *et al.* (2021) found that those who had less teaching experience perceived the professional development to be most beneficial as it increased their feeling of competency. This not only further supports the contribution of self-determination theory (Ryan and Deci 2017), but acknowledges that experience and confidence are closely associated. Indeed, the perceived value of professional development has been found to diminish amongst those with more years of teaching experience (Fendler and Glaeser-Zikuda 2013). The more teachers were educated about effective teaching strategies, the more they reflected upon their teaching ability. This reduced some participants' self-efficacy, but Korthagen (2004) felt experiencing uncertainty is important to encourage the possibility of trying new things.

The recognition that knowledge exchange is not always solely the teacher's responsibility is key to making sense of learning experiences. Noben *et al.* (2021) found that teachers share content with students, but it is the learner's responsibility to understand and fill gaps in their education to fulfil assessment requirements. How the teacher provides those opportunities link to their sense of empowerment to use pedagogy, but most found when changing their approach to a student-centred learning environment, their own self-efficacy improved. This supports the concept that the learning environment should be based around learner needs, to enable both lead and participant development. Likewise, adopting a reflective and facilitative teaching approach further enhanced this.

In their study in Germany, Fabriz *et al.* (2021) provide a supportive perspective by arguing that professional development should allow teachers to have adequate knowledge to make informed pedagogical choices to enhance learning outcomes. However, this process is self-regulated and belies the assumption that when teachers allegedly acquire new skills from professional development, they utilise them immediately in their teaching, thus increasing their competency and self-efficacy (Bandura 1997). When participation is matched with assumptions of providing sufficient knowledge and new skills, it places teachers in the same category as learners where it is not the full responsibility of the deliverer to equip individuals with all knowledge. Thus, it should not be assumed that sufficient knowledge has been acquired within a professional development session.

When considering the relationship between self-efficacy and learning design, and like other research studies covered in this review, Fabriz *et al.* (2021) propose a structured professional development programme. The first module consists of identifying the needs of individuals and then linking to workshops on how to teach effectively through constructivist theories and presentation formats. The second module allows participants to choose from a range of topics that may impact their teaching, such as assessment and feedback. The third module is compulsory and includes subjects such as research strategies, mentoring and feedback. The study involved 73 participants, which involved pre- and post- measurements of self-efficacy and self-concept. The researchers conclude that, overall, the participants' self-efficacy improved through increased choice, relevance and integration with experienced peers. They not only present a realistic model but suggest that by ensuring novice teachers engage in professional development learning formats with more experienced professionals, their efficacy and knowledge will be enhanced. Additionally, it was noted that professional development can comprise compulsory aspects from an institutional viewpoint, when blended with structured and relevant choice.

It has already been mentioned how isolation presents a potential barrier towards professional development (Wennerberg and McGrath 2022). Brouwer *et al.* (2020) investigate the social connections and relationships that university teachers have and explore how social capital and the

formation of relationships help individuals realise and achieve discrete goals. It is thought that by building a communication network based on a mutual connection, a sense of self-efficacy increases through enhancing the social relationship. Unfortunately, Brouwer *et al.* (2020) discovered that, as they become more experienced in their field, university teachers become less connected with their peers than when they entered the profession, when they were seeking new ideas from others to enhance their job satisfaction. Time constraints were identified as a significant factor, and so without a structured programme in place, colleagues do not prioritise their professional development and opportunities are missed for regular connection with familiar and unfamiliar staff for exposure to new ideas.

### **3.3. Engagement with professional development**

Professional development is generally designed to improve the quality of teaching and learning (Drew and Klopper 2014) and its deliverers act as agents who unlock the transformation of theory to practice in diverse teaching environments (Larsen-Freeman 2013). Effective professional development requires sustained engagement, without which the impact on teaching quality is diminished. Dilshad *et al.* (2019) argue that the teaching workforce is the sole contributor to the promotion of student achievement and external university status. Their exploration of what engages university teachers within professional development spaces highlights the influence of engagement formats, culture, and teachers' personal and professional beliefs and values.

#### **3.3.1. Formats of engagement**

In many countries, the national picture of university performance is acquired through league tables informed by various statistical data measurements (Barnett and Moher 2019). The impact of the league tables can be economical, with higher-ranking universities attracting students with a commensurate increase in fee income, but it can also be workforce related, where a skilled teacher might attract and retain students. To perform their roles and responsibilities effectively within this competitive landscape, it is widely accepted that university teachers must engage in professional development (Dilshad *et al.* 2019).

Dilshad *et al.* (2019) conducted a study on professional development in Pakistan universities, revealing that reading books, studying higher qualifications (such as a PhD), and engaging with developmental resources were most engaging, similar to those found in Saudi Arabia by Shousha (2015). Networking, mentoring, attending courses and being involved in research projects were considered less engaging. Whilst all participants noted the importance of communication skills, the results suggest that public universities in Pakistan favour non-verbal formats of professional development over collaborative and dialogic approaches (Ryan and Deci 2017, Wennerberg and McGrath 2022).

When institutions associate academics' responsibilities (such as research output) with progression opportunities (and hence financial reward), it is unsurprising that teachers do not prioritise their engagement with professional development that they perceive to be unrelated. Another study by Jääskelä *et al.* (2017) proposes that the presentation of evidence-informed material for enhancing teaching practice generates mutual trust amongst teachers and enhances the likelihood of utilising the material, whilst reducing issues that pertain to time management and workload as the professional development is deemed more valuable. Voluntary and flexible sessions allowed sufficient opportunity for teachers for discussion and dissemination of knowledge for them to feel appropriately supported, both pedagogically and technologically. The challenge was highlighted when discussing how both public and private Ecuadorian universities value professional development. Specifically, they noted that members of senior management undervalue the programme, request development is achieved in a specific timeframe and provide no allocated workload for professional development. All variables hold significant influence in relation to understanding what makes university teacher development effective.

When reviewing formats of engagement, both Dilshad *et al.* (2019) and Jääskelä *et al.* (2017) promote reading, writing and interpretation skills as a prioritised learning format, rather than the social, psychological concepts that have been reviewed (Ryan and Deci 2017, Wennerberg and McGrath 2022). This contradicts Glaés-Coutts (2020), Wennerberg and McGrath (2022), and Shousha (2015) research on university teachers seeking social, and shared connections, or structured community or face-to-face programmes proposed by Wennerberg and McGrath (2022) and Shousha (2015), or online formats (Sia and Cheriet 2019). The prioritisation of student-centred pedagogical practice (Muianga *et al.* 2019) seems inconsistent, as arguably reading and writing do not necessarily promote theory-to-practice that other collaborative methods have found to be effective. That said, Dilshad *et al.* (2019) did acknowledge support for accreditation-type activities, which other European countries have been found not to recognise (Parsons *et al.* 2010). Like Pakistani universities, Saudi Arabian (Shousha 2015) and South African (Ndebele *et al.* 2016) institutions also recognise that working towards and achieving academic qualifications is a leading form of professional development. This cultural leaning towards a rewards-based professional development subsequently affects the attitude and commitment to, and thus engagement with, other learning formats when offered. Consequently, when universities prioritise the attainment of academic qualifications as a form of professional development, they tend to encourage that route solely.

### **3.3.2. Transfer of learning through professional development**

Three variables influence the effectiveness of professional development: intervention design (i.e. structure and support), work environment (i.e. strategic link, organisational support) and characteristics of the learner (i.e. motivation and cognitive ability) (Jaramillo-Baquerizo *et al.* 2019). The first two categories have been examined in previous sections of this review, and so this sub-section considers how the characteristics of the teachers-as-learners can influence the effectiveness of university teacher development schemes. In an Ecuadorian study of interviews with university teachers, Jaramillo-Baquerizo *et al.* (2019) found that as Ecuadorian teachers are required to fulfil hours of mandatory training to gain professorship status (de Educación Superior 2017), thus professional development must link to career trajectory to meaningfully engage. Likewise, Saberi and Amiri (2016) found similar conclusions in the context of Iranian universities. They found that notwithstanding the requirement to complete mandatory training, professional development is seen as a ‘one-size-fits-all’ approach, which therefore reduces engagement due to its inability to be contextually meaningful to all university teachers. It also lacked critical reflection, which not only impacted their ability to complete accredited qualifications, but also their ability to transfer the learning to their own teaching environment. In both studies, Jaramillo-Baquerizo *et al.* (2019) and Saberi and Amiri (2016) interviewed university teachers that had acquired a Master’s degree or PhD qualification. Therefore, due to this being a requirement within most university settings (National Careers Service n.d.), participants arguably had a good foundation of knowledge in terms of teaching approaches to initially build upon.

Investigations into student perspectives present illuminating evidence for what makes professional development of their teachers ‘effective’. For example, Jaramillo-Baquerizo *et al.* (2019) found that students claimed to prefer an ‘excellent teacher’ rather than an ‘excellent professional’, suggesting that teaching quality (i.e. approach, skillset, engagement of students) is preferable to teaching expertise as evidenced through qualifications. Although academic qualifications have a purpose in a university setting (Higher Education Academy 2012, Thornton 2014, Bell and Brooks 2019), Jaramillo-Baquerizo, *et al.*’s study provides evidence from students, arguably the recipients of teachers’ professional development, that higher qualifications do not always correlate with excellent teaching expertise. This line of argument points to the value of professional development that provides university teachers with tools that directly enhance teaching quality.



Teaching experience and ability are two further factors that affect engagement with professional development. If sessions are not designed to meet the ability needs (or gaps of) teacher development, there is a corresponding lack of engagement. Ecuadorian universities promote professional development only to those less experienced (Jaramillo-Baquerizo *et al.* 2019) whilst, in contrast, Saberi and Amiri's (2016) study focuses on new university teachers. Iranian universities encourage an alternative culture of self-directed development, with the view that it provides opportunity for teachers to understand their own context independently (Saberi and Amiri 2016). Arguably, this is difficult to do if they are not exposed to a range of professional development sessions with others, contributing to the construction of knowledge. A conclusion from the review noted that without collaborative approaches and follow up activities to support teachers, engagement cannot be sustained.

### 3.3.3. The 'cultural' lens

When considering the culture and ethos of institutions, Ndebele *et al.* (2016) use Archer's Social Realist Theory (Archer 1995, 2000, 2007) to provide a framework for understanding how structure, culture and agency interact to affect teacher engagement with professional development. In their study of rural South African universities, the authors propose that the forces, agencies and resources operating within rural universities differ to urban universities. In contrast, Masinire *et al.* (2014) acknowledged ambiguity, pointing out that poverty, absence of support and neglect also feature within more densely populated areas, as later reviewed within Suwaed and Rahouma's (2015) study.

Power relations, resources and structures of social arrangement can be present in any context (Archer 2000). Archer (2000) notes that potential professional development barriers such as teacher workload can link to a range of these factors as they involve structural organisation and interplay between policy and resources. For example, one assumption is that heavy workload is commensurate with insufficient staffing, which can result from inadequate financial resourcing within an institution, thus placing higher demand on fewer staff. The outcome of this relationship is the lack of resource to provide professional development in addition to the roles and responsibilities of a teacher. Leibowitz *et al.* (2009) relate this to cultural factors, where insufficient staffing can create negative environments for teachers, where the ability to enforce or encourage professional development becomes more difficult, and motivation to enhance their professional practice is thus curtailed. Archer (2000) extends her theoretical thinking to social responsibility and power, where the role that teachers hold and the choices they make can impact the environment. For example, some teachers will voluntarily commit to staff development regardless of the culture (Barley and Beesley 2007), and others may commit to professional development as they perceive their own need for improvement. These studies refer to teacher agency in a social context, where personal power links to decision making, willingness and nature of action (Archer 2000).

Findings from Ndebele *et al.* (2016) suggest that engagement with professional development can also be influenced by cultural attitudes held by the senior management team. Like Dilshad *et al.* (2019) study, interviews revealed a lack of time for staff development due to cultural drive towards achieving academic qualifications, rather than teaching and learning accolades. This is founded on institutional structural views and constraints (Archer 2000), but promotes the view that professional development needs to move away from a qualification-driven phenomenon and take purposeful priority within university cultures. Although these views may support teaching competency, it is premised again on the assumption that academic qualifications directly link to professional teaching quality (Thornton 2014). It also suggests the requirement for the staff body to be extrinsically motivated, seeking tangible outcomes from any professional development that takes place merely because of policy and procedure. Taking this to be the case, universities must consider ways in which cultures can provide scope for other professional development opportunities that might stimulate teachers intrinsically.

### 3.3.4. Power of perception in relation to approaches to teaching

Approaches to teaching and learning are moulded from a teacher's beliefs and value (Kálmán *et al.* 2020). Initially, teachers construct their own meaning of what 'good' teaching looks like, influenced by their own experiences as well as institutional and curriculum design (Trigwell and Prosser 1996). Professional development provides value in how it can engage teachers in different ways that unsettle or adapt their previous conceptions, but barriers arise when new approaches and practices are suggested, but lie beyond the sophistication or ability of the teacher. Although Trigwell and Prosser (1996) is a dated source within Kálmán *et al.* (2020) study, they suggest that teachers do focus on specific teaching approaches without acknowledging the potential of new approaches. For example, Kálmán *et al.* (2020) identified that those teachers from subjects such as engineering and mathematics tended to be focused on knowledge, and those from education and humanity disciplines were more orientated towards practice. This would suggest that some university teachers perceive more potential to experiment and develop thinking skills than others and their discipline significantly influences their attitude and application. That said, all university teachers found sharing and collaborating with colleagues surrounding their teaching practice had a strong impact which indicates there is a high level of engagement when colleagues can collaborate.

In their large-sample study in Finland and Hungary, Kálmán *et al.* (2020) found that institutions were generally perceived to be supportive in nature with a positive departmental culture overall. It also recognised that teachers' level of experience, notwithstanding discipline areas, was a significant contributing factor to the findings. Teachers with the least experience were found to adopt a more student-centred and practice-orientated approach. Contrastingly, teachers with the most experience were found to be more teacher-centred, knowledge and research focused. These conclusions support the idea that approaches to teaching should be versatile and promote experimentation from entry to the institution, which is not a predominant format of professional development within reviewed studies. In turn, this may lead to consistent engagement and open-mindedness to professional development as teaching experience grows within the sector.

Furthermore, Jääskelä *et al.* (2017) also conducted a study within Finland, which supported Kálmán *et al.* (2020) conclusion that the way in which teachers view professional development is pivotal to its effectiveness. Jääskelä *et al.* (2017) found that if teachers view professional development as valuable and rewarding, are consistently encouraged by senior management, and have the necessary tools and networks to fulfil their role requirements, engagement will be at its highest. Although there are a range of factors to consider, linked to mindset, interpersonal connections and institutional resources, ensuring alignment between institutional expectations and professional developmental programmes can overall enhance the relationship. As found in previous studies (i.e. Kálmán *et al.* 2020), universities in Finland have access to a high volume of employees. As such, there was scope to develop a programme over three years and utilise 51 consistent participants who undertook semi-structured interviews to explore factors that aid developmental work within their institution. They found both supportive and constraining factors to the development of teaching within this timeframe. Supportive factors linked to role integration, evidence-based knowledge, workload, voluntary commitment and active support from hierarchy. In contrast, constraining factors linked to lack of teacher involvement in design, development being seen within a limited timeframe, financial rewards provided to research but not teaching and learning, as well as feeling undervalued and under resourced.

Through the exploration of engagement factors within this section, our review highlights several themes. Firstly, university teachers rely on informal ways of sharing practice with other colleagues notwithstanding their discipline or expertise. Secondly, although some reviewed studies had preferred mediums for professional development, this was significantly influenced by the institutional culture. There is more awareness and acknowledgement of the cultural dimensions of a department or institution as an experienced teacher, which contributes to the contextual willingness to engage in professional developmental activities. It is a consideration that when new academics enter

university teaching, when they develop increased awareness of cultural attitudes adopted by more experienced staff, it may hinder their engagement with the programme itself.

#### 4. Conclusion

Our intention for this review was to progress the field of professional development for teachers in university settings by understanding recent findings from studies conducted in the international landscape of the effectiveness of university professional development. The review has uncovered findings on preferred structure and design of professional development, as well as the multiple ways in which value is perceived amongst those in the academic teaching domain. The findings are often contingent on cultural and national context, but lessons can be learned from all the studies.

In general, it was found that professional development is perceived to be more valuable when it is flexible, informal and structured in its design. Within peer review, smaller formats are favoured, particularly with communities of colleagues that are unfamiliar with each other. The opportunity to network with others allows for conversations to be intentional and meaningful to their context from a pedagogical viewpoint, providing it is deemed relatable to them. The limitations of peer review teaching are recognised within the feedback cycle, so competency training could be delivered to ensure that the feedback role builds mutual trust within academic relationships and supports the development of teaching practice. Introducing dialogue within professional development had consistent significance within the reviewed articles but the studies highlighted the importance that university teachers place on identifying tangible credibility in their professional development. Pressure of attendance should be removed where feasible, with an increase in choice to encourage teacher engagement.

Furthermore, self-determination theory helps us understand how university teachers can engage with professional development and have their psychological needs fulfilled in relation to enhancing their competency, autonomy and connection to teaching (Jaramillo-Baquerizo *et al.* 2021). It encourages the view that professional development should be designed to consider the teacher's needs before the institutional or government agenda. This continues to build upon current research that identifies challenges within the university professional development space (i.e. van Dijk *et al.* 2022; Ragupathi 2021; Sutherland 2018). With the design of professional development being contentious, focusing on teachers' perspectives, rather than institutional objectives, provides us with valuable insight.

A proposal of teacher-created professional development was discussed to consider this further, along with online learning which could be explored in further depth. Providers of professional development activities for academic teachers will find value in considering the lessons learnt from the international research studies covered by this review.

Broad data was yielded through the review of studies in rural, private and public universities, affording us the ability to offer some conclusions as to what contributes to making a university teacher development programme effective. Professional development for university teachers needs to be relatable, meaningful, and appropriately designed to ensure there is a transfer of learning from theory to practice. It also needs to be flexible, voluntary, and realistic for teachers to attend. Enabling teachers to follow a balanced approach of information integration and co-operative, collegial activities can help moderate the often contradictory and cultural views of teaching already established in their departments.

Through the exploration of the diverse literature on what makes professional development effective in an international university setting, this review has presented an understanding of the complexity and variety of factors that feed into effective professional development, which is likely to prove useful for those involved in providing such opportunities for university teachers. It has highlighted three significant categories for consideration: the range of pedagogical interventions that constitute professional development activities, the ways in which teachers are motivated towards self-development, and the formats of engagement through which professional development

is delivered. The review makes a significant contribution to the discussion on the effectiveness of professional development, one which is often too closely premised on a narrow interpretation of student outcomes that exceeds teachers' direct influence through their teaching practice. By drawing on perspectives from other cultures and countries, it also chimes with the spirit of Fung's proposal for more collectivist aspirations to good *education*, not merely good performance.

Institutional priorities might be informed by what this review reveals about teachers' perceptions of effectiveness. There are clearly lessons to be learnt on what helps to make professional development more effective, ensuring that valuable time, energy, and resources are directed towards those who make learning in university settings possible.

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## References

- Alhojailan, M.I., 2012. Thematic analysis: a critical review of its process and evaluation. In: *Academic Conference Proceedings - WEI International European*, Zagreb, Croatia.
- Alma Economics, 2022. *The teaching excellence framework - analysis of consultation responses*. London: Office for Students, 1–66.
- Archer, M., 1995. *Realist social theory: the morphogenetic approach*. New York: Cambridge University Press.
- Archer, M., 2000. *Being human: the problem of agency*. New York: Cambridge University Press.
- Archer, M., 2007. *Contributions to social ontology*. London and New York: Routledge.
- Armstrong, T., 2010. *Neurodiversity : discovering the extraordinary gifts of autism, ADHD, dyslexia, and other brain differences*. Accessible Pub. Systems.
- Bandura, A., 1997. *Self-efficacy: the exercise of control*. New York: Freeman.
- Barley, Z. and Beesley, A., 2007. Rural school success: what can we learn? *Journal of Research in Rural Education*, 22 (1), 1–16.
- Barnett, A.G. and Moher, D., 2019. Turning the tables: a university league-table based on quality not quantity. *F1000Research*, 8, 583. doi:10.12688/f1000research.18453.2.
- Baskerville, D. and Goldblatt, H., 2009. Learning to be a critical friend: from professional indifference through challenge to unguarded conversations. *Cambridge Journal of Education*, 39 (2), 205–221. doi:10.1080/03057640902902260.
- Bell, A.R. and Brooks, C., 2019. Is there a magic link between research activity, professional teaching qualifications and student satisfaction? *Higher Education Policy*, 32 (2), 227–248. doi:10.1057/s41307-018-0081-0.
- Bell, M. and Cooper, P., 2013. Peer observation of teaching in university departments: a framework for implementation. *International Journal for Academic Development*, 18 (1), 60–73. doi:10.1080/1360144x.2011.633753.
- Bernstein, D.J., 2008. Peer review and evaluation of the intellectual work of teaching. *Change, the Magazine of Higher Learning*, 40 (2), 48–51. doi:10.3200/chng.40.2.48-51.

- Bertani, A. and Tafel, L., 1992. Reconceptualising staff development for systematic change. *Journal of Staff Development*, 13 (4), 42–45.
- Bozak, A., Yildirim, M., and Demirtas, H., 2011. An alternative method for professional development of teachers: peer observation. *University journal of the Faculty of Education*, 12 (2), 65–84.
- Braun, V., Clarke, V., and Weate, P., 2016. Using thematic analysis in sport and exercise research. In: *Routledge Handbook of Qualitative Research in Sport and Exercise*. London: Routledge, 191–205.
- Brennan, L., et al. 2021. The role of packaging in fighting food waste: a systematised review of consumer perceptions of packaging. *Journal of Cleaner Production*, 281 (125276), 125276. doi:10.1016/j.jclepro.2020.125276.
- Broer, N.A., 2019. Teaching as a normative practice. In *Paper International Conference Liverpool*. pp.1–10. [online] Christianity, Education and Changing Contexts. [https://www.researchgate.net/publication/333534451\\_Teaching\\_as\\_a\\_normative\\_practice](https://www.researchgate.net/publication/333534451_Teaching_as_a_normative_practice).
- Brouwer, J., Downey, C., and Bokhove, C., 2020. The development of communication networks of pre-service teachers on a school-led and university-led programme of initial teacher education in England. *International Journal of Educational Research*, 100, 101542. doi:10.1016/j.ijer.2020.101542.
- Centra, J.A., 1993. *Reflective faculty evaluation : enhancing teaching and determining faculty effectiveness*. San Francisco: Jossey-Bass.
- Darling-Hammond, L., 2021. Defining teaching quality around the world. *European Journal of Teacher Education*, 44 (3), 1–14. doi:10.1080/02619768.2021.1919080.
- de Educación Superior, C., 2017. Reglamento de Régimen Académico. *Pub l*, 19, 1–56.
- de Lange, T. and Wittek, A.L., 2020. Analysing the constitution of trust in peer-based teacher mentoring groups – a sociocultural perspective. *Teaching in Higher Education*, 4 (1), 1–15. doi:10.1080/13562517.2020.1724936.
- Department for Education, 2016. *Teaching excellence and student outcomes framework*. [online] GOV.UK. <https://www.gov.uk/government/collections/teaching-excellence-framework>.
- De Rijdt, C., et al. 2014. Classification of staff development programmes and effects perceived by teachers. *Innovations in Education and Teaching International*, 53 (2), 179–190. doi:10.1080/14703297.2014.916543.
- Devine, R., 2021. Reflexive thematic analysis – the what, why and how. <https://richarddevinesocialwork.com/2021/11/12/reflexive-thematic-analysis-the-what-why-and-how/>.
- Diaz-Maggioli, G., 2004. *Teacher-Centered Professional Development*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Dilshad, M., Hussain, B., and Batool, H., 2019. Continuous professional development of teachers: a case of public universities in Pakistan. *Bulletin of Education and Research*, 41 (3), 119–130.
- Doghonadze, N., 2016. The state of school and university teacher self-development in Georgia. *International Journal of Research in Education & science*, 2 (1), 104–113. doi:10.21890/ijres.30667.
- Doyle, J., Sonnert, G., and Sadler, P., 2018. How professional development program features impact the knowledge of science teachers. *Professional Development in Education*, 46 (2), 195–210. doi:10.1080/19415257.2018.1561493.
- Drew, S. and Klopper, C., 2014. Evaluating faculty pedagogic practices to inform strategic academic professional development: a case of cases. *Higher Education*, 67 (3), 349–367. doi:10.1007/s10734-013-9657-1.
- Engin, M., 2016. Enhancing the status of peer observation through the scholarship of teaching and learning. *International Journal for Academic Development*, 21 (4), 377–382. doi:10.1080/1360144x.2016.1225576.
- Esterhazy, R., et al. 2021. Moving beyond peer review of teaching: a conceptual framework for collegial faculty development. *Review of Educational Research*, 91 (2), 237–271. doi:10.3102/0034654321990721.
- Fabriz, S., et al. 2021. How a professional development programme for university teachers impacts their teaching-related self-efficacy, self-concept, and subjective knowledge. *Higher Education Research & Development*, 40 (4), 738–752. doi:10.1080/07294360.2020.1787957.
- Fanghanel, J., et al. 2016. *Defining and supporting the scholarship of teaching and learning (SoTL): a sector-wide study: literature review*. York, UK: Higher Education Academy.
- Fendler, J. and Glaeser-Zikuda, M., 2013. Lehrerfahrung und der Shift from teaching to learning. *Zeitschrift für Hochschulentwicklung*, 8 (3). doi:10.3217/zfhe-8-03/03.
- Fitzpatrick, R., 2001. The strange case of the transfer of training estimate. *The Industrial Organizational Psychologist*, 39 (2), 18–19.
- Fung, D., 2016. Strength-based scholarship and good education: the scholarship circle. *Innovations in Education and Teaching International*, 54 (2), 101–110. doi:10.1080/14703297.2016.1257951.
- Glackin, M., 2018. 'It's more than a prop': professional development session strategies as sources of teachers' self-efficacy and motivation to teach outside the classroom. *Professional Development in Education*, 45 (3), 372–389. doi:10.1080/19415257.2018.1490917.
- Glaés-Coutts, L., 2020. University-supported networks as professional development for teachers in school-age educare. *International Journal for Research on Extended Education*, 8 (1–2020), 66–79. doi:10.3224/ijree.v8i1.06.
- Grant, M.J. and Booth, A., 2009. A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, 26 (2), 91–108. doi:10.1111/j.1471-1842.2009.00848.x.

- Hattie, J., 2001. Performance indicators for the interdependence of research and teaching. in P. Shelley and G. Suddaby, eds., *Understanding the Interdependence of Research and Teaching: Research Papers for the Vice-Chancellor's Symposium on the Research-Teaching Nexus*. Massey University, 50–52.
- Higher Education Academy, 2012. *Impact of teaching development programmes in higher education* *Impact of teaching development programmes in higher education*.
- Hill, H.C., Beisiegel, M., and Jacob, R., 2013. Professional development research. *Educational Researcher*, 42 (9), 476–487. doi:10.3102/0013189x13512674.
- Hockings, C., et al. 2009. 'I'm neither entertaining nor charismatic . . .' negotiating university teacher identity within diverse student groups. *Teaching in higher education*, 14 (5), 483–494. doi:10.1080/13562510903186642.
- Ibrahim, A., et al. 2020. The effects of a teaching development institute for early career researchers on their intended teaching strategies, course design, beliefs about instructors' and students' knowledge, and instructional self-efficacy: the case of the teaching institute at Johns Hopkins University. *Studies in Educational Evaluation*, 64, 100836. doi:10.1016/j.stueduc.2020.100836.
- Jääskelä, P., Häkkinen, P., and Rasku-Puttonen, H., 2017. Supporting and constraining factors in the development of university teaching experienced by teachers. *Teaching in Higher Education*, 22 (6), 655–671. doi:10.1080/13562517.2016.1273206.
- Jaramillo-Baquerizo, C., et al. 2021. Exploring the consideration of university teachers' basic psychological needs in the design of professional development initiatives. *Journal of Higher Education Policy & Management*, 43 (3), 315–329. doi:10.1080/1360080x.2020.1812021.
- Jaramillo-Baquerizo, C., Valcke, M., and Vanderlinde, R., 2019. Professional development initiatives for university teachers: variables that influence the transfer of learning to the workplace. *Innovations in Education and Teaching International*, 56 (3), 352–362. doi:10.1080/14703297.2018.1479283.
- Kálmán, O., Tynjälä, P., and Skaniakos, T., 2020. Patterns of university teachers' approaches to teaching, professional development and perceived departmental cultures. *Teaching in Higher Education*, 25 (5), 1–20. doi:10.1080/13562517.2019.1586667.
- Kavanagh, K.M. and Ari, T.R., 2018. Curricular and pedagogical oppression: contradictions within the juggernaut accountability trap. *Educational policy*, 34 (2), 283–311. doi:10.1177/0895904818755471.
- Korthagen, F.A.J., 2004. In search of the essence of a good teacher: towards a more holistic approach in teacher education. *Teaching & teacher education*, 20 (1), 77–97. doi:10.1016/j.tate.2003.10.002.
- Kreber, C., 2010. Academics' teacher identities, authenticity and pedagogy. *Studies in Higher Education*, 35 (2), 171–194. doi:10.1080/03075070902953048.
- Kupritz, V.W., 2002. The relative impact of workplace design on training transfer. *Human Resource Development Quarterly*, 13 (4), 427–447. doi:10.1002/hrdq.1042.
- Larsen-Freeman, D., 2013. Transfer of learning transformed. *Language learning*, 63, 107–129. doi:10.1111/j.1467-9922.2012.00740.x.
- Lave, J. and Wenger, E., 1991. *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Leibowitz, B., et al. 2009. What makes a 'good' first-year lecturer. In: B. Leibowitz, A. Van Der Merwe, S. Van Schalkwyk, eds. *Focus on first year success: perspectives emerging from South Africa and beyond*. Stellenbosch: Sun Media, 255–270.
- Lord, J., 2022. Why is recruitment and retention in the university sector more difficult than other sectors? *Resources for academics and university staff*. <https://www.timeshighereducation.com/campus/why-recruitment-and-retention-university-sector-more-difficult-other-sectors>.
- Louis, L., 2022. *Research guides: understanding nursing research: systematic reviews and secondary research*. [online] guides.library.tamucc.edu. <https://guides.library.tamucc.edu/c.php?g=889148&p=6497124#s-lg-box-26653062>. [Accessed 9 Sep 2022].
- Masinire, A., Maringe, F., and Nkambule, T., 2014. Education and rural development: embedding rural dimension in teacher initial preparation. *Perspectives in education*, 32 (3), 146–158.
- McGrath, C., 2020. Academic developers as brokers of change: insights from a research project on change practice and agency. *International journal for academic development*, 25 (2), 94–106. doi:10.1080/1360144x.2019.1665524.
- McMahon, T., Barrett, T., and O'Neill, G., 2007. Using observation of teaching to improve quality: finding your way through the muddle of competing conceptions, confusion of practice and mutually exclusive intentions. *Teaching in higher education*, 12 (4), 499–511. doi:10.1080/13562510701415607 .
- Muianga, X.J., et al. 2019. Teachers' perspective towards professional development regarding the use of SCL approaches and ICT: a quantitative case study of Eduardo Mondlane University, Mozambique. *The international journal of education and development using information and communication technology (IJEDICT)*, 15 (2), 79–97.
- National Careers Service, n.d. *Higher education lecturer | explore careers | national careers service*. [online] nationalcareers.service.gov.uk. <https://nationalcareers.service.gov.uk/job-profiles/higher-education-lecturer#:~:text=You%27ll%20need%20a%20good>.
- Ndebele, C., Muhuro, P., and Nkonki, V., 2016. Rurality and the professional development of university teachers. *South African journal of higher education*, 30 (6), 127–145. doi:10.20853/30-6-728.

- Nevgi, A. and Löfström, E., 2014. Visualisation as a means for exploring academics' teacher identities. *International journal for academic development*, 19 (3), 174–185. doi:10.1080/1360144X.2013.823545.
- Nevgi, A. and Löfström, E., 2015. The development of academics' teacher identity: enhancing reflection and task perception through a university teacher development programme. *Studies in educational evaluation*, 46, 53–60. doi:10.1016/j.stueduc.2015.01.003.
- Newman, M. and Gough, D., 2020. Systematic reviews in educational research: methodology, perspectives and application. in O. Zawacki-Richter, M. Kerres, S. Bedenlier, M. Bond, and K. Buntins, eds. *Systematic reviews in educational research*. Springer, 3–22.
- Noben, I., et al. 2021. How is a professional development programme related to the development of university teachers' self-efficacy beliefs and teaching conceptions? *Studies in educational evaluation*, 68, 100966. doi:10.1016/j.stueduc.2020.100966.
- O'Leary, M. and Price, D., 2016. Peer observation as a springboard for teacher learning. In: *Reclaiming lesson observations: supporting excellence in teacher learning*. Abingdon: Routledge, 114–123.
- O'Leary, M. and Savage, S., 2020. Breathing new life into the observation of teaching and learning in higher education: moving from the performative to the informative. *Professional development in education*, 46 (1), 145–159. doi:10.1080/19415257.2019.1633386.
- Opfer, V.D., Pedder, D.G., and Lavicza, Z., 2011. The role of teachers' orientation to learning in professional development and change: a national study of teachers in England. *Teaching & teacher education*. 27 (2), 443–453, [online]. doi:10.1016/j.tate.2010.09.014.
- Parsons, D., Hughes, J., and Walsh, K., 2010. Initial training and professional development of teachers and trainers beyond upper-secondary education. in Publications office of the European Union. Cedefop.
- Pekkarinen, V. and Hirsto, L., 2017. University lecturers' experiences of and reflections on the development of their pedagogical competency. *Scandinavian journal of educational research*, 61 (6), 735–753. doi:10.1080/00313831.2016.1188148.
- Phothongsunan, S., 2018. EFL university teachers' professional development in the Thai context. *Arab world English journal*, 9 (2), 283–297. doi:10.24093/awej/vol9no2.19.
- Plucker, J.A. and Callahan, C.M., 2021. *Critical issues and practices in gifted education*. New York: Routledge. doi:10.4324/9781003233961.
- Pokhrel, T. and Behera, S., 2016. Expectations of teachers from teachers professional development program in Nepal. *American journal of educational research*, 4 (2), 190–194.
- Potter, M.K. and Kustra, E., 2011. The relationship between scholarly teaching and SoTL: models, distinctions, and clarifications. *International journal for the scholarship of teaching & learning*, 5 (1), 23. doi:10.20429/ijstl.2011.050123.
- Qureshi, M.A., et al. 2021. Factors affecting students' learning performance through collaborative learning and engagement. *Interactive learning environments*, 14 (3), 1–21. doi:10.1080/10494820.2021.1884886.
- Ragupathi, K., 2021. Desired characteristics of continuing professional development for holistic academic development. *International journal for academic development*, 1–14. doi:10.1080/1360144x.2021.2007484.
- Reeve, J., 2016. A grand theory of motivation: why not? *Motivation and emotion*, 40 (1), 31–35. doi:10.1007/s11031-015-9538-2.
- Richard, C.L., et al. 2019. Impact and attitudes about peer review of teaching in a Canadian pharmacy school. *American journal of pharmaceutical education*, 83 (6), 6828. doi:10.5688/ajpe6828.
- Ryan, R.M. and Deci, E.L., 2017. *Self-determination theory: basic psychological needs in motivation, development, and wellness*. New York: Guilford Press.
- Saberi, L. and Amiri, F., 2016. A qualitative study of Iranian EFL university teachers' attitude towards professional development. *Journal of language teaching and research*, 7 (3), 591. doi:10.17507/jltr.0703.22.
- Sancar, R., Atal, D., and Deryakulu, D., 2021. A new framework for teachers' professional development. *Teaching & teacher education*, 101, 103305. doi:10.1016/j.tate.2021.103305.
- Shousha, A.I., 2015. Peer observation of teaching and professional development: teachers' perspectives at the English language institute, King Abdulaziz University. *SSRN electronic journal*, 6 (2), 131–143. doi:10.24093/awej/vol6no2.10.
- Sia, S. and Cheriet, I., 2019. Algerian university teachers' disposition and experiences in using MOOCs for their continuous professional development. *SSRN Electronic Journal*, (1), 51–64. doi:10.2139/ssrn.3400424.
- Skelton, A., 2012. Teacher identities in a research-led institution: in the ascendancy or on the retreat? *British educational research journal*, 38 (1), 23–39. doi:10.1080/01411926.2010.523454.
- Sutherland, K.A., 2018. Holistic academic development: Is it time to think more broadly about the academic development project?. *International journal for academic development*, 23 (4), 261–273. doi:10.1080/1360144x.2018.1524571.
- Suwaed, H. and Rahouma, W., 2015. A new vision of professional development for university teachers in Libya 'It's not an event, it is a process'. *Universal Journal of Educational Research*, 3 (10), 691–696. doi:10.13189/ujer.2015.031005.

- Svendsen, B., 2016. Teachers' experience from a school-based collaborative teacher professional development programme: reported impact on professional development. *Teacher Development*, 20 (3), 313–328. doi:10.1080/13664530.2016.1149512.
- Svendsen, B. and Marion, P., 2014. A school-based teacher professional development programme for science teachers: participants' reports on perceived impact over time. In *Science education research for evidence-based teaching and coherence in learning*, Nicosia, Cyprus. ESERA Conference.
- Tenzin, K., et al. 2019. Impact of faculty development programme on self-efficacy, competency and attitude towards medical education in Bhutan: a mixed-methods study. *BMC medical education*, 19 (1). doi:10.1186/s12909-019-1904-4.
- Thomson, K., Bell, A., and Hendry, G., 2015. Peer observation of teaching: the case for learning just by watching. *Higher education research & development*, 34 (5), 1060–1062. doi:10.1080/07294360.2015.1034349.
- Thornton, T., 2014. Professional recognition: promoting recognition through the higher education academy in a UK higher education institution. *Tertiary Education & Management*, 20 (3), 225–238. doi:10.1080/13583883.2014.931453.
- Trigwell, K. and Prosser, M., 1996. Changing approaches to teaching: a relational perspective. *Studies in higher education*, 21 (3), 275–284. doi:10.1080/03075079612331381211.
- Tümekaya, G. and Miller, S., 2020. The perceptions of pre and in-service teachers' self-efficacy regarding inclusive practices: a systematised review. *Ilkogretim Online*, 19 (2), 1061–1077.
- University and College Union. n.d. *Lesson observation: uCU principles & position*. [online] Available from: [https://www.ucu.org.uk/media/5006/Lesson-observation-UCU-principles-and-position/pdf/ucu\\_lessonobservation\\_feb12.pdf](https://www.ucu.org.uk/media/5006/Lesson-observation-UCU-principles-and-position/pdf/ucu_lessonobservation_feb12.pdf).
- van Dijk, E.E., et al. 2022. Connecting academics' disciplinary knowledge to their professional development as university teachers: a conceptual analysis of teacher expertise and teacher knowledge. *Higher education*. doi:10.1007/s10734-022-00953-2.
- Vansteenkiste, M. and Ryan, R.M., 2013. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of psychotherapy integration*, 23 (3), 263–280. doi:10.1037/a0032359.
- Villegas-Reimers, E., 2003. *Teacher professional development: an international review of the literature*. Paris: International Institute For Educational Planning.
- Webster-Wright, A., 2009. Reframing professional development through understanding authentic professional learning. *Review of educational research*, 79 (2), 702–739. doi:10.3102/0034654308330970.
- Wennerberg, J. and McGrath, C., 2022. Breaking the isolation: a study of university teachers' collective development. *Journal of praxis in higher education*, 4 (1), 7–27. doi:10.47989/kpdc110.
- Wise, A.F., 2014. Designing pedagogical interventions to support student use of learning analytics. In *Proceedings of the fourth international conference on learning analytics and knowledge*, Indianapolis, USA, 203–211.