Abstract

The demands faced by teachers when dealing with diversity are prompting several countries to reform professional learning (PL) policy to support sustainable learning opportunities for all. As inclusive education (IE) unfolds within a complex dynamic, it is essential to consider how different elements interact during PL deployment in context. There is currently limited research on how PL is being translated to the classroom since it overlooks the influences of different systems that interact and combine in unique ways across contexts. This article reviews scholarly evidence concerning three domains that have been studied separately but not integrated as a whole in IE inquiry: Inclusive education, inclusive practice and professional learning. A research synthesis of 66 studies was compiled for a threefold purpose: (i) to provide an overview of the evolution of the concept of IE and the context of the contemporary reform of Education For All (EFA); (ii) to understand how inclusive practice is permeated by developments in IE and their implications; and (iii) to critically examine different research perspectives on PL in IE and illustrate the value of a complexity approach that encompasses macro, micro, and mesoscale elements. Most of the studies reviewed adopt a unitary approach to the three domains, thus the need for holistic research into how PL is applied in the classroom has become apparent.

Keywords: Professional learning - Inclusive education - Classroom practice - Complexity.
Resumen
Las exigencias a las que se enfrentan los profesores cuando tratan con la diversidad están impulsando a varios países a reformar la política de aprendizaje profesional (AP) para apoyar oportunidades de aprendizaje sostenibles para todos. Dado que la inclusión educativa (IE) se desarrolla dentro de una dinámica compleja, es esencial considerar cómo interactúan los distintos elementos durante el despliegue del PL en el contexto. En la actualidad, la investigación sobre cómo se transfiere el AP a la aula es limitada, ya que pasa por alto las influencias de diferentes sistemas que interactúan y se combinan de forma única en los distintos contextos. Este artículo revisa la evidencia académica relativa a tres dominios que han sido estudiados por separado pero no integrados como un todo en la investigación de la IE: la inclusión educativa, la práctica inclusiva y el aprendizaje de los profesores y el aprendizaje profesional. Se recopiló una síntesis de investigación de 66 estudios con un triple propósito: (i) proporcionar una visión general de la evolución del concepto de IE y del contexto de la reforma contemporánea de la Educación para Todos; (ii) comprender cómo la práctica inclusiva está impregnada por los avances en EI y sus implicaciones; y (iii) examinar críticamente diferentes perspectivas de investigación sobre la PL en IE e ilustrar el valor de un enfoque de complejidad que abarque elementos de macro, micro y mesoescala. La mayoría de los estudios examinados adoptan un enfoque unitario de los tres ámbitos, por lo que se necesitan investigaciones holísticas sobre cómo se aplica la PL en el aula.

Keywords: Aprendizaje profesional - Educación inclusiva - Práctica en el aula - Complejidad.

Resumo
As exigências enfrentadas pelos professores quando lidam com a diversidade estão a levar vários países a reformar a política de aprendizagem profissional (AP) para apoiar oportunidades de aprendizagem sustentáveis para todos. Uma vez que a educação inclusiva (EI) se desenvolve numa dinâmica complexa, é essencial considerar a forma como os diferentes elementos interagem durante a aplicação da PL no contexto. Atualmente, a investigação sobre a forma como o PL está a ser transferido para a sala de aula é limitada, uma vez que não tem em conta as influências de diferentes sistemas que interagem e se combinam de formas únicas em cada contexto. Este artigo analisa os dados académicos relativos a três domínios que têm sido estudados separadamente mas não integrados como um todo na investigação sobre educação inclusiva: Educação inclusiva, prática inclusiva e aprendizagem dos professores e aprendizagem profissional. Foi compilada uma síntese de 66 estudos com um triplo objetivo: (i) fornecer uma visão geral da evolução do conceito de EI e do contexto da reforma contemporânea da Educação para Todos; (ii) compreender como a prática inclusiva é permeada por desenvolvimentos na EI e as suas implicações; e (iii) examinar criticamente diferentes perspectivas de investigação sobre PL na EI e ilustrar o valor de uma abordagem complexa que engloba elementos de macro, micro e mesoescala. A maioria dos estudos analisados adopta uma abordagem unitária dos três domínios, pelo que são necessários outros tipos de investigação sobre a forma como as PL são aplicadas na sala de aula.

Introduction

Inclusive Education (IE) has become internationally recognised as a comprehensive educational reform that addresses the diversity of all learners (UNESCO, 2017), however, some countries continue to perceive IE as an approach primarily designed to respond to the needs of learners with disabilities in regular settings (Opertii et al., 2014). Research indicates that inclusion practices are understood differently in different countries and implemented differently over time (Brennan & King, 2021; Messiou & Ainscow, 2022). Consequently, there is a lack of clarity about what inclusive practice is, what diversity entails, and how teachers should implement IE (Hernández Torrano, et al., 2022). As such, several countries (Japan, Spain, Portugal, Israel, Colombia, Chile) are implementing reforms in their PL policies to support teachers who do not feel well prepared to face the demands of their classrooms. The definitions of IE might provide insight into the focus of legislation, programs, and regulations, and may offer insight into the complexity of the challenges it poses for teachers' professional learning. Approximately 44% of countries have laws and policies that promote teacher training on inclusion (UNESCO, 2020). However, it is critical to note that each country defines inclusion differently and uses the term distinctly in its policies and laws. About 10% of 196 countries have laws addressing inclusion as a concept encompassing all learners. These laws do not specify the content of teacher training on IE. The links between teacher training and inclusion in education are not explicitly stated. For example, Ghana's inclusive education policy seeks to ‘ensure that all preservice teacher training courses include training on inclusive education to prepare teachers to deal with diversity in the classroom and be equipped with relevant teaching and learning strategies for the inclusion of students with disabilities in mainstream schools’ (Ghana Ministry of Education, 2015, p. 8). Likewise, Paraguay (Paraguay Ministry of Education and Science, 2018), and Argentina, (Argentina Ministry of Education, 2016, p. 16) seek to ‘train new teachers with specific knowledge and skills to guarantee teaching processes that promote quality learning and IE of students with special needs.

Although the discussion of PL for IE has been established for more than 20 years, and advances have been made that acknowledge the context and the social and political influences
of different regions (Brennan & King, 2021; Florian & Camedda, 2020; Messiou & Ainscow, 2020), in recent publications there is a paucity of understanding regarding the temporal and spatial realities of contexts where PL is translated. Instead, most research has been framed within a traditional “special needs” perspective, which implies that PL is examined from various perspectives that demonstrate the most common elements studied within teacher learning from the lens of process-product logic (Nilholm, 2021). For instance, one of the recurring questions is how the knowledge acquired during the course is applied, assessing whether a specific program or teaching or learning strategy leads to the improvement of particular skills among students with special needs (Florian & Rouse, 2010). It appears that a substantial gap still exists between PL and classroom practice (Florian 2012, Hernández Torrano et al., 2022; Nilholm, 2021; Rapp & Corral-Granados, 2021). Accordingly, this review undertook the current research synthesis to answer the question of how do different elements in PL about IE inquiry interact within a complex dynamic?

To answer this question, this article outlines three domains that have been discussed individually yet have not been considered their connections and implications for PL in IE: the evolution of the concept of IE in the context of the contemporary reform of Education For All, how inclusive practice is permeated by developments in IE and their implications; and the importance of applying a complexity approach to PL in IE research by examining it from various research perspectives.

**Methodology**

The literature presented was selected based on their contribution to the conceptualisation of IE and its operationalisation. Review articles were published between 2000 and 2022 that covered a wide range of international research since 1990. The search strategy was implemented through electronic databases (EBSCO, ERIC and SCOPUS) academic catalogues (Taylor & Francis and SAGE) and general search engines (Google Scholar). To identify evidence that validates the ongoing debates about the definition of IE and how teachers have been prepared for it, the range of research published is mainly over ten years addressing: a) discussion that outlines the international policy context in EFA with a focus on challenges related to scope,
theories, and teaching practices, b) the paradox of inclusive practice, and c) professional learning in inclusive education and the most common elements studied within teacher learning. A large number of studies on the professional learning of teachers contribute to the rationale for this article; however, there is a paucity of studies that account for PL directly connected to IE.

The search was restricted to studies published in 2013-2022; no essays, editorials, or studies that exclusively provided details on teacher training programs or examined PL or inclusive practice from a conceptual perspective were included. The key search terms were inclusive education, inclusion, inclusive classroom, inclusive practice, professional learning for inclusion, teacher professional learning and teacher professional development. They were used in conjunction with terms such as complexity systems, frameworks, context, and professional learning practice. Articles were searched in English and Spanish without regard to geographical location in an attempt to account for contextual factors surrounding IE. A literature search produced 116 articles published in peer-reviewed journals, and three books (Artiles et al., 2011; Florian & McLaughlin, 2008; Forlin, 2013). After deleting duplicates and applying the selection criteria to the 126 studies identified, 68 were selected that discussed the transformations IE has undergone (n=29) and provided insights into the challenges it entails for teachers' PL (n=32) and seven literature reviews relevant to the two areas of interest, IE (n=4) and PL (n=3) were compiled.

The data was extracted using an Excel template developed by the researcher as a flexible tool for data extraction, which allowed categories to be added based on findings. The literature was evaluated to determine its suitability for describing the current literature related to PL, IE, and inclusive practice. For each study, a surface reading was performed to gather an overview of the whole and ensure that it addressed aspects of the challenges associated with the evolution of EI, its implications for teachers' PL, and its implementation within the classroom. Coding each article for key concepts and developing themes based on those codes was the basis of the qualitative analysis. The constant comparative coding technique (Dye et al. 2000) was employed so that as new codes appeared, previously coded articles were reread to determine if they had been missed and added codes as necessary.
Data analysis revealed three themes: (1) A changing concept of inclusive education, (2) conflicting approaches to inclusive practice, and (3) the complexity of professional learning.

An evolving concept of Inclusive Education

From a comparative international perspective, several initiatives and practices related to IE portray varying meanings depending on the region and theoretical approach used. (Ainscow, 2020; Hernández Torrano et al., 2022; Magnusson, 2019; Nilholm & Göransson, 2017). For example, Opertti et al., (2014) depict how IE has evolved from rights-based approaches of the Declaration of Human Rights, which helped to reinforce the growth of IE near the end of the 20th century. IE now falls within a broader agenda that stresses the value of mainstreaming education for all students (Kurniawati et al. 2014). After the 1994 Salamanca Statement and its Framework for Action on Special Needs Education, the practice of inclusive educators changed to focus on improving conditions for specific learners, typically children with disabilities. As such, IE is considered a model of democracy that is desired throughout society, as well as a means of democratising education and societal development (Thomazet, 2009). The UNESCO EFA Monitoring Report (UNESCO, 2018) indicates that IE plays an important role in creating more inclusive societies since it has largely been achieved through the implementation of policies and interventions that have been proven effective in different contexts. This vision of inclusion informed the 2008 International Conference on Education (ICE) providing a platform for the promotion of lifelong learning, sustainability, and equal access to learning opportunities for all (UNESCO-IBE, 2008).

After announcing the Framework for Action commitment to achieving EFA (Education For All) in 2015 at the World Education Forum in Dakar, IE became increasingly oriented towards ensuring quality education at all levels, in all settings, and through provisions within the education system. However, Hernández Torrano et al. (2022) discuss how such initiatives might be incorporated and synergised across different educational systems that serve primarily as components rather than facilitators of learning. Van Mieghem et al. (2020) also note that IE has been fragmented over time and has evolved in several multiple avenues, which makes it particularly difficult to harmonise the range of existing theories, concepts and methodologies into a cohesive framework that will advance the field.
New challenges have arisen for the IE agenda due to the diversity of perspectives and often the conflict between those based on categories and groups and those based on a holistic view. According to recent studies by Nilholm (2021) and Hernández Torrano et al. (2022), four common usages of IE in the literature have been identified. Essentially, these refer to (i) placement; (ii) social and academic support to students with disabilities and special needs; (iii) social and academic support to all students and (iv) expansion of the concept to school communities. Similarly, Opertti et al. (2014) distinguish four main ideas about how inclusion policies and practices are understood and applied, reflecting the evolution of inclusion mentioned previously. These are: Idea 1: Everyone has a right to an education. This is the basis for a rights-based approach (The United Nations Declaration on Human Rights, 1948). Idea 2: Priority is given to students with special needs (Salamanca Statement); Idea 3: More emphasis is placed on IE including disadvantaged learners (the World Education Forum in Dakar, 2000); and, Idea 4: Quality education for all through enhancing educational systems capacities is the ideal (Sustainable Development Goal No. 4, the Education 2030 Framework for Action).

Beyond a sense of coherent growth between ideas, Opertti et al (2014), Nilholm (2021) and Hernández Torrano et al. (2022) acknowledge that each of these perspectives offers its own fundamentals, rationale, content, and implications that may not necessarily be framed cohesively. For example, in Latin America several normative and strategic reforms have been made, most notably over the past decade, to reinforce education as a human right, enhance government participation, and implement programs that benefit excluded Afro-original and Indigenous populations. Even so, inclusive practices and approaches are primarily found in special education departments/divisions, typically targeted at including special education needs students in regular classrooms (Pereira, 2017; Pereyra, & Popkewitz, 2022; Vaillant, 2019; Villegas, et al., 2017). Moreover, it has been reported that IE is limited to students with disabilities, mostly those with mental or physical disabilities, and refugees in South-eastern European countries, the Commonwealth of Independent States, and Asian countries. (UNESCO, 2015; UNESCO-IBE, 2008; Zagoumennov, 2011).
Sorting out the ideas

As a multifaceted concept, IE varies widely from country to country (Artiles, et al., 2011). Since the Salamanca statement, governments and their educational organisations have been responsible for ensuring inclusive education. Ainscow, et al., (2019) state that related policies aim to reduce exclusion and discrimination to promote diversity. However, Florian and Rouse (2010) suggest that some definitions include all forms of student diversity, several other researchers describe IE as a combination of teaching strategies, reasonable adjustments or accommodations as a means of addressing disabilities and special education needs (Nes & Stromstad, 2006; Vislie 2003), and educational leadership (Randel et al. 2018). Additionally, it has been recognised that IE does not refer solely to diversity among abilities, but also to other differences, such as ethnicity and gender and how schools address these differences. These differences in interpretation have political implications for what schools should and can do to assist IE in meeting its goals (e.g., Göransson & Nilholm 2014).

In terms of implementing IE, there are implications arising from the definitions regarding how it should be organised. For example, most authors agree that learners can benefit from placement, reception, or participation in a mainstream setting, and the school should, when possible, work towards supporting all groups of students to achieve their full potential (Burner, et al., 2018). However, practical research on IE seems very focused on establishing the appropriate conditions for inclusion and facilitating access to education for special groups of learners (Weiner, 2003). Rapp and Corral Granados (2021) observe that the relationship between discourse and action reveals meaning uncertainty. Political discourse is committed to diversity and inclusion, but there are a limited number of specific guidelines on how it should be applied in practice (Sturm, 2019).

To better comprehend the dilemma of the goal of equitable education for all learners focused on specific groups of students (Rapp & Corral-Granados, 2021), it is helpful to examine how inclusive practices have been understood and researched.
Inclusive Practice: The paradox between theory and practice

The frameworks provided by policy and legislation allow for discussion and research on IE but do not necessarily translate it into immediate changes in school practice, nor does it provide guidance on what inclusive practices should look like (Artiles et al., 2011; Finkelstein et al., 2021). Nilholm (2021) provides an insightful analysis since different definitions express different understandings that have a significant impact on classroom practice. Mitchell (2015) interprets IE as a concept encompassing multiple processes and values, arguing that it is essentially a practical concept given school complexity and the interconnectedness of IE with underlying values. Nilholm and Alm (2010) and Rapp and Corral-Granados (2021) point out that theoretical and conceptual convictions can interfere with the actual implementation of IE. Consequently, in practice, some educators oppose the idea that classrooms should be shared by all students; however, they comply with the provisions about placing students together (Nilholm, 2021). Alternatively, some recognise diversity as an avenue to foster a variety of conditions for learning, teaching, and community but report having insufficient knowledge and skills to fully achieve the goal of IE. This ultimately leads to the need and justification for specialised assistance to reach "all" students in an attempt to "include" those who do not meet, or surpass the usual achievement expectations. Further, some disabilities-focused agencies advocate for the need for additional and specialised services to provide more effective educational solutions for children with special learning needs (Ainscow & Miles, 2008; Booth, & Ainscow, 2002) and highlight the need for co-located special schools within mainstream schools (Ainscow, 2012). This ‘solution’ seems especially attractive when only some agree that all children should be educated together, and in the face of the reality that even when there is consensus, disagreements remain about how this can be achieved.

What do ‘inclusive practices’ mean?

The concept of inclusive practices entails providing learning and teaching activities responsive to student diversity (Graham, et al., 2015; Ainscow, 2020). Therefore, learning experiences are designed according to the distinctive needs and strengths
of each learner. Considerations are given to how all students can be challenged effectively and take part in their learning process (Booth, 2011; Booth & Ainscow, 2002). The planning and implementation of such a program should be guided by a strengths-based approach, which means that consideration should be given to students' strengths rather than their deficiencies (Florian & Spratt, 2013; Graham, et al., 2015) while still identifying and responding to obstacles that challenge students' learning and participation (Dally et al., 2019). Student learning assessment is designed to support all students' achievements, both collaboratively and individually (Berman & Graham, 2018; Booth & Ainscow, 2002; Graham, et al., 2015). In schools where learning support staff or teaching assistants are available, they assist all students to learn and participate, rather than only those with special educational needs. In addition, planning learning experiences designed to accommodate all learners reduces the demand for individualized assistance (Ainscow, 2020; Berman & Graham., 2018; Booth & Ainscow, 2002; 2011; Graham, et al., 2015). Inclusion in the classroom can positively impact students' self-esteem, learning, social development and emotional well-being when effectively implemented (Antoninis et al., 2020). Woodcock, et al. (2022) state, however, that the enactment of inclusive practices may not always reflect the inclusive values, and that teachers, schools, and the government may lack consistency in their approach. For instance, while IE encompasses equitable education for all, it is often confounded with students with disabilities or special needs (Ainscow, 2020; Nilholm, 2021, Woodcock & Hardy, 2017).

Challenges

Woodcock and Hardy (2017) report on how when they surveyed teachers about their definitions of inclusive classrooms, a portion of teachers, from early to late career stages, focused primarily on differentiating instruction for learners with special needs. When this approach is adopted, students with labels may be viewed in a different light than those without (Florian & Spratt, 2013). Additionally, teachers may attribute students' academic deficit or difficulty to a particular category whether it is disability, ethnicity, gender, linguistic background, or socioeconomic status (Messiou & Ainscow, 2020). When a narrow focus is placed on inclusive education, factors that may contribute to barriers that students
face in the classroom are often overlooked (Amstrong, et al., 2010; Booth & Ainscow, 2002) and consequently, teachers place lower expectations on their abilities (Florian & Spratt, 2013). Holding high standards for all learners is crucial to their achievement (Hattie, 2009).

It has also been noted that there is still a trend that students with learning difficulties require only physical attendance or 'integrated' into regular classes to be successfully included (Burner, et al., 2018; Woodcock & Hardy, 2017). There may be students within the classroom who are present but not fully engaged. For example, they may be separated from the group to receive assistance from a teaching assistant (Slee, 2006). Accordingly, in such situations, inclusive practices appear to be understood as extensions of special education, and as such, teachers struggle to achieve inclusion due to the absence of adequate comprehension of disabilities and a lack of specialist training to teach learners with learning difficulties. Teachers may also be challenged when they believe additional support staff are always necessary to effectively serve students with special educational needs in their classes (Woodcock & Hardy, 2017). It may account for insecurities among teachers in their abilities to handle diverse classrooms and to set student-specific learning goals (Ainscow et al., 2019). As this review indicates, as yet several questions remain unanswered regarding the understanding, preparedness and approaches of teachers to diversity, and the extent to which inclusive practices have been implemented in classrooms.

**Moving forward**

Black-Hawkins (2012) argued that to build a more comprehensive construct about inclusive practice and inclusive teachers, it is necessary to acknowledge, value, and explore the complexity of their daily work and the context where it is happening. Similarly, Finkelstein et al. (2021) and Artiles et al. (2011) argued that inclusive practices need to be consistent and contextually relevant regardless of the quality of the definition or the epistemological considerations. Florian (2012) and Forlin (2013) agreed that since IE can take on many different forms in response to the needs of the stakeholders and the context where they are found, it is not sufficient to merely provide general guidelines without accounting for teacher understanding.
and their own evaluations of their practice and perceptions of their agency, as well as how they consider they deal with organisational factors and school expectations. Moreover, Forlin (2013) emphasises that teaching practice is not considered a static process, and therefore similar elements cannot always be transferred from one context to another. Therefore, schools are faced with the challenge of adopting contextualised inclusive practices whilst simultaneously addressing the obstacles they may encounter in implementing IE.

Understanding the complexity of professional learning

While the conceptual and philosophical understandings of IE and inclusive practices may result in variations in how schools are organised, teachers' education is a concern across the globe (Brennan & King, 2021; Darling-Hammond, 2019; Guskey, 2002; Philipsen et al., 2019; Opfer & Pedder, 2011; UNESCO, 2018). Internationally, teachers require more professional learning opportunities in inclusion consistent with the fact that PL is enshrined in laws and policies (UNESCO, 2020). Kozleski, et al., (2014) state that a critical component of the development of inclusive school systems is ensuring that teachers are well-equipped with the understanding, skills, sensitivities, and awareness of the context that is necessary to provide quality education, engagement, and learning for all. According to Nye et al., (2004), the impact of teachers is significantly more substantial than school effects. Furthermore, the OECD (2005) reports that PL is recommended as an integral component of supporting educational reform. Unfortunately, PL faces challenges when preparing teachers to work in classrooms where IE seems ubiquitous (Slee, 2011).

Study trends about PL in IE

Consistent with what has been discussed in the first section of this synthesis review, a growing body of research focused on PL about IE has identified three definitions of IE (Waitoller & Artiles, 2013). First, are definitions where IE is considered applicable only to students with disabilities or special needs (Duncan et al., 2021; European Agency for Inclusive Education,
2019). In this view, there are two distinct ways in which PL has been understood: through exploring instructional strategies for enhancing student access and participation, and by investigating school culture changes that facilitate access and learning (Bagliery et al., 2011; Dyson et al., 2002, 2008). Second, definitions that examine gender and ethnicity in the curriculum, ignoring disabilities (Hodkinson & Devarakonda, 2009). Third, definitions refer to encouraging all students to participate and learn (Waitoller & Artiles, 2013; Wilkinson et al., 2013). In general, these definitions inform and guide the objectives of PL programs towards three different types of learning: (a) Learning that addresses who the program aims to reach (e.g., students with disabilities, minorities, women, etc.); (b) Learning that specifies concrete steps to be taken (e.g., ensuring equal access, recognising and valuing difference, curriculum adjustments, and or allowing families equal participation); and (c) Learning focused on organising the setting of the inclusive practice (e.g., community, school, classroom, etc.) (Waitoller & Artiles, 2013).

Most studies about teacher PL have been published in journals focused on learning disabilities, special needs, and intellectual disability (European Agency for Special Needs and Inclusive Education, 2019; Waitoller & Artiles, 2013). Overall, PL has been examined from two viewpoints: outcome-based and process-based. According to the literature, as a general principle, studies assumed that PL involves a variety of methods and learning activities and that learning is directly related to the frequency with which these activities are employed in the program (Duncan, et al., 2021; Opfer & Pedder, 2011). Therefore, PL impacts teachers' learning through changes in their practices when empirical relationships are assumed between the types of tasks or activities, the learning structures, and placement. Villegas et al. (2017) point out that although there is a relationship amongst forms of learning, PL activities and teacher change, the preference for process-product approaches is that variables are measured by their absence versus presence, resulting in a limited understanding of how mechanisms function at different intensities and scales and how they are adapted to different contexts.

Additionally, in research on PL for IE, methods, strategies, and programs tend to be explored in a relatively comprehensive manner, but their analysis procedures are not clearly described. Specifically, Duncan et al. (2021) found that PL research in IE has
resulted in a limited and fragmented body of knowledge due to the diverse approaches to IE and the conceptualisation of teacher learning. To progress, it seems necessary to recognise local actors’ meaning-making processes within the context of evolving systems. That is, future research will need to take into account the nuances and idiosyncrasies of particular educational settings, and how teachers enact PL in practice in complex contexts where various systems overlap (i.e., educational policies, school culture, learning and teaching environment, teacher agency, etc.). Clarke and Collins (2008) and Opfer and Pedder (2011, 2013) have agreed that this reorienting of the conceptual framework from a causal-effect perspective to a contextual perspective would be helpful and would facilitate the exploration of PL in terms of a complex system instead of as a single activity/process (Davis & Sumara, 2006). Martin et al. (2019) also argued that based on the notion of complex systems, it is assumed that social behaviour is composed of a variety of dynamics that combine and interact in various ways, resulting in multi-factorial causality even for simple decisions (Collins & Clarke, 2008).

The complexity

Research on PL that fails to recognise the complexities of the issue may result in a misunderstanding of the nature of teacher professional learning and may focus instead on isolated entities (e.g., teacher learning, content, sets of activities, strategies or teaching programs) without taking into account influences from external systems (legislation, educational providers, school culture and interests) (Davis & Sumara, 2006; Rahman, et al., 2014). As Rahman, et al., (2014) discussed, PL is a complex system that has not been widely appreciated for its full potential since it has been defined primarily in terms of aggregations and generalisations, with little consideration for the unique interactions between contexts, individuals, and other factors it provides. Hoban, in effect, reinforces the argument presented by Villegas et al. (2017) that contends that PL for IE cannot be analysed and optimised using generic principles. Depending on the circumstances, relationships between elements vary in scale and intensity, take different forms and are always nested, involving systems within systems. This perspective provides an opportunity to draw upon useful conceptual insights from Davis and Sumara (2006) who demonstrated that teacher learning is an interaction between independent actors (teachers), the
collective (including grade levels and subject areas), and systems within larger structures (schools as part of educational structures embedded in political and social frameworks).

Additionally, a crucial finding of Opfer and Pedder (2011) is the absence of a theoretical explanation for PL research. Despite being procedurally rigorous, Opfer and Pedder found that the research they reviewed failed to offer insights into how teacher experience is generated in the real world (Bristol & Ponte, 2013; Duncan et al., 2021). The problems that they identified were related to the assumption that a process–product conceptualisation of causality is at the root of the PL such that a successful PL program will lead to enhanced teaching practices, thereby increasing student learning. For instance, in England and Latin America, many countries have implemented policies that define PL as activities that teachers should engage in. Because of the dominance of this straightforward formula, considerable research has focused on identifying the characteristics of PL programs that contribute to changes in teaching practices and, therefore, an increase in learners’ achievement. Opfer and Pedder (2011) and Duncan et al. (2021) acknowledge, however, that research relating to PL lacks replication across studies and consistency across contexts, which makes the findings regarding its features less significant than the consensus suggests. Similarly, the conclusions of Villegas et al. (2017) and Rahman, et al., (2014) illustrate the cyclical process of change and learning that is fundamental in PL. Changes can occur in one area that has influence, but those changes cannot be observed in another. In other words, teachers’ beliefs might change, but their practices might not, or practices might change without changing their beliefs, and importantly, their practice may change without changing students’ learning outcomes.

Discussion and Recommendations

The purpose of this synthesis of research is to provide insight into how different components interact in a complex dynamic within PL in IE focusing on three domains that were discussed describing the implications that the conceptualization of IE entails for inclusive practice and the challenges it poses for teacher PL. IE is a multifaceted concept that varies greatly from one country to another. In some definitions, IE encompasses all forms of student diversity, and in others, it is defined as a
combination of teaching strategies, reasonable adjustments, and accommodations to support students with disabilities and special educational needs. Different interpretations have implications for what schools should and can do to meet IE objectives, with significant effects on classroom practice. Research in PL about IE has also been largely influenced by straightforward process-product equation designed to identify the characteristics of PL programs that result in changes in teaching practices, and therefore an increase in learners' achievement. This approach fails to facilitate the exploration of PL as a complex system based on the premise that translating PL into classrooms is composed of a multitude of dynamics that are combined and interact differently, resulting in multi-factorial relationships even for a particular program or activity.

The significance of this synthesis is that it highlights three particular fields integrated as a whole, rather than separately, allowing insight into the complexity of translating PL into practice. PL research from different countries with different educational systems and cultural underpinnings are treated as being about the same ‘thing’ without considering that this means different – sometimes substantially different – in those contexts. Thus, making these differences visible and documenting them from a rigorous research analysis will serve as a baseline to encourage the development of more effective approaches geared toward considering the uniqueness of each context, the diversity of learners in contemporary classrooms, and the distinctive nature of teachers' practice. The recommendation is to move beyond the analysis of outcome measures or isolated entities to examine how teachers implement PL in IE within the complexity of classroom life and the dilemmas they face daily as they support the participation and achievement of all students, thereby supporting teachers and contributing to the development of future teacher education programs.

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