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Professional learning and the individual education plan process: implications for teacher educators

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ABSTRACT

Policy and legislation internationally advocates curriculum access and inclusion for pupils with special educational needs. The individual education plan (IEP) process, which focuses on individual planning for pupils with special educational needs, has been mandated as a means of achieving this goal in many countries. As a concept it has been challenged in terms of its potential to perpetuate difference which is antithetical to inclusion. As a practice concerns have been raised regarding its development, implementation and review. In the Republic of Ireland (ROI) IEPs have been legislated for but not enacted. Nonetheless policy guidelines promote use of the IEP process and state funding supports teacher professional development in this area through an award-bearing model. This article draws on a mixed methods study to evaluate the impact of this award-bearing model on teachers' professional learning, in the context of IEPs. Findings indicate enhanced teacher expertise for supporting curriculum access for individual learners. However collaborative practices to support contextualisation of learner goals into class planning and practice need to be addressed. This article argues for teacher educators to focus on enhancing teacher leadership and capacity building within schools to ensure that curriculum access is achieved within an inclusive environment.

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Introduction

The importance of teacher professional learning has been promulgated in literature and in policies across the world (Organisation for Economic Cooperation and Development (OECD) 2005, Evans 2014). It is also reflected in the vast amounts of money spent by governments on teacher professional development (PD), despite economic downturns, in a bid to enhance student outcomes, as evidenced on international measures of educational effectiveness, and narrow the gap for low-attaining students (King 2014).

On a parallel vein, inclusion has been generally accepted as orthodoxy in many countries resulting in teachers having an increased diversity of students, including those with special educational needs (SEN) in their classrooms (Riddell *et al.* 2007). Acknowledging inclusion is a contested and elusive term with no universally agreed definition (European Agency for Development in Special Needs Education (EADSNE) 2013), this article conceptualises inclusion as the process of increasing the participation and engagement in learning of students with SEN in an inclusive environment with children who do

not have such needs (Government of Ireland 2004). Inclusion has challenged the established practices of teachers, resulting in wide-scale acceptance for the importance of teacher professional learning (O’Gorman and Drudy 2010, EADSNE 2013).

Central to inclusion is the individual education plan (IEP) process (Department for Education and Skills (DfES) 2001, Individuals with Disabilities Education Act (IDEA) 2004, National Council for Special Education (NCSE) 2006). An IEP is defined in the Irish context as ‘a written document prepared for a named student which specifies the learning goals that are to be achieved by the student over a set period of time and the teaching strategies, resources and supports necessary to achieve those goals’ (NCSE 2006, p. xii). It is a document and a process which serves two purposes: educational and accountability. Educationally, the document sets out the targets for the student’s learning and the expected learning outcomes. In terms of accountability, the IEP records and evaluates the effectiveness of provision for the student (Bateman 2011, Andreasson *et al.* 2013). IEPs are mandatory in many jurisdictions, for example, United States, United Kingdom, New Zealand, Australia, Canada, the Netherlands, Sweden and Saudi Arabia. Noteworthy, they are not mandatory in the Republic of Ireland (ROI). They have been proposed within the Education for Persons with Special Educational Needs (EPSEN) Act (Government of Ireland 2004) but this part of the Act to date has not been implemented (Rose *et al.* 2012) due to economic constraints in Ireland. Thus, while IEPs are supported in policy documents and acknowledged as good practice by the Department of Education and Skills (DES) they are not a legal requirement. In this context they are perceived as ‘best’ practice (NCSE 2006) and form part of all postgraduate programmes of PD funded by the DES.

This article explores the impact of an award-bearing model of PD on teachers’ professional learning in the context of IEPs in a bid to unpack any knowledge practice gap (Kennedy 2014). Additionally, it seeks to explore the nature of the PD to embed teachers’ changes in practices (Wearmouth *et al.* 2000), using King’s (2014) evaluation framework and, in so doing, to develop the framework. It considers implications for teacher educators nationally and internationally in planning PD experiences around the IEP process.

Following this introduction are five main sections: conceptual framework for evaluation of PD; professional learning; IEP process; methods including context, design and data analysis; findings; followed by a discussion of implications for teacher educators and some concluding comments.

Conceptual framework

Exploring the impact of PD is arguably a weak link in the PD chain (King 2014), perhaps more so in the European context (Evans 2014). The area of impact of PD is still a growing field (Kennedy 2014) with few studies focused on the effectiveness of PD, on teachers’ professional learning in the context of the IEP process (Rose *et al.* 2012). King’s (2014) conceptual framework (see Table 1) for evaluating impact of PD which built on other previous well-established models, most notably that of Bubb and Earley (2010), Guskey (2002), Stake (1967) and Kirkpatrick (1959), was adopted for use in this study.

One of the critiques of previous models was the linear or hierarchical nature of change whereas King’s (2014) framework allowed for exploration of the complex nature of the many variables that impact teacher engagement with PD and teacher and student outcomes. This framework (see Table 1) has five aspects; *Baseline* explores teachers’ motivation and expectations for engaging with the PD; *PD experience* evaluates the ‘usefulness’ of and satisfaction with the PD (Kennedy 2015); *Learning outcomes* explores new knowledge; *Degree and quality of change* explores the knowledge practice gap (Kennedy 2014) and the degree to which the changes have taken place. This is arguably a particular strength of the framework which has built on the work of Hall and Hord (1987) thus allowing for a more detailed understanding of the changes in practice related to IEPs; and *Systemic factors* exploring factors that helped/hindered teachers in the development, implementation and review of IEPs.

The earlier-mentioned aspects are especially pertinent for this article as it seeks to inform teacher educators and in so doing enhance the award-bearing model and its value. The research questions that form the basis for this article are:



Table 1. Professional development (PD) impact evaluation framework (King, 2014).

Baseline	Teacher's motivation and expectations from engaging with the course Prior knowledge and skills related to the individual education plan (IEP) process Initial satisfaction with the PD course (e.g. overall satisfaction, content useful, venue, format, lecturers)
PD experience	New knowledge, skills and attitudes acquired or enhanced (e.g. did participants acquire the intended knowledge, skills competencies to develop, implement and review IEPs?)
Learning outcomes	<i>Organisational</i>
Degree & quality of change in practice	<ul style="list-style-type: none"> • New processes e.g. whole school approaches • New or improved systems, e.g. writing IEPs, templates used
	<i>Personal</i>
	<ul style="list-style-type: none"> • Teacher efficacy and confidence in developing, implementing and reviewing IEPs
	<i>Professional</i>
	<ul style="list-style-type: none"> • Quality of use and understanding of new and improved knowledge and skills e.g. levels of use or non-use of IEPs; • <i>Discontinued</i>: I did try using a particular practice (in this context practice could be IEPs or an aspect of the IEP process or content) but have since discontinued it • <i>Critical</i>: I am using the practice in collaboration with other teachers, we have made some changes to meet our students' needs. We are using the underlying principles and procedures in other teaching areas • <i>Accepted</i>: I have established a way to use the practice and it works for me in my classroom. I understand the underlying principles and I will continue to use it regardless of continued support from others • <i>Technical</i>: I am using the new practice and am following the guidelines as suggested for its use • <i>Preparation</i>: I have decided to use the practice and am currently preparing and planning for using it • <i>Orientation</i>: I am looking at the practice and exploring the possibilities for its use. I have not committed to using it • <i>Non-use</i>: I have not begun to explore the use of the new practice to date
	<i>Cultural</i>
	<ul style="list-style-type: none"> • Forms of collaboration, collective practice relating to IEPs
	<i>Student outcomes</i>
	<ul style="list-style-type: none"> • Affective • Cognitive • Psychomotor
Systemic factors	<i>Diffusion</i> of practices to other staff members Conditions that supported or hindered teachers in their development, implementation and review of IEPs.

- To what extent did PD impact on teachers' professional learning related to the IEP process?
- What can providers of PD learn from this to inform future PD experiences?

Professional learning

Professional learning, often used interchangeably in the literature with PD, is conceptualised in this article as the learning or growth that teachers experience from engaging with PD (Evans 2014, King 2014). Understanding this learning is pivotal for teacher educators as they design the model, content and structure of PD (Desimone 2009).

Models of PD

Kennedy (2005, 2014) theorised models of PD ranging from training models suited for transmission of new knowledge and skills, to collaborative professional inquiry models aimed at teachers' transformative practices. Award-bearing models are situated within the 'malleable' category as they may support increased autonomy and agency (Kennedy 2014). Given that the postgraduate course for teachers in the ROI is funded, it remains to be seen to what extent the award-bearing model of PD was a 'contributory factor to enhancing teacher agency' (Kennedy 2014, p. 693) involving working with others to meet the needs of all students (Florian and Spratt 2013). This is especially pertinent given findings from the 'Inclusive Research in Irish Schools (IRIS)' report (Rose *et al.* 2015) highlighting that many class/subject teachers in the ROI believe that they lack the knowledge, skills and understanding to support effective curricular access for students with SEN.

Content of the award-bearing model

The PD programme aimed to improve teachers' content-knowledge (Brigham *et al.* 2011) and classroom practice related to the IEP process (Desimone 2009, Vermunt and Endedijk 2011). It also included a large student-focused, curriculum-focused and collaboration-focused (O'Gorman and Drudy 2010) assignment requiring teachers to develop, implement and review an IEP in their own school context with one student as the focus. Teachers were required to assess and plan for three areas of the curriculum. Associated learning outcomes respond to the ranking of PD on the IEP process as the highest required competency by 816 teachers in ROI (O'Gorman and Drudy 2010). This is somewhat echoed by teachers in the Holland and Hornby (1992) study who rated highly the ability to develop realistic targets for children with SEN. Additionally findings from Jenkins and Ornelles (2009) argued for PD for all teachers on the IEP team. However little attention to date has been paid to the structure of PD around the IEP process.

Structure of the award-bearing model

The nature of the PD programme was such that it ran over one academic year rather than take place in one-off workshops (Kervin 2007), with teachers being released from school, with substitute cover, for two four-week blocks. The partnership between schools and the university (Brigham *et al.* 2011) also involved a further three weekends, an online engagement to support learning throughout the year and teachers received three school visits for formative and summative assessment related to their teaching practices. While the sole focus of the course was not on the IEP process the sole focus of the research and this article is related to the IEP.

This longer-term continuous, job-embedded PD that involved active and inquiry-based learning is conceivably the most effective for facilitating pedagogical change (Desimone 2009, Vermunt and Endedijk 2011) and sustaining changes (Pedder *et al.* 2008). Job-embedded PD has been aligned with teacher leadership which it is argued can enhance schools' capacity to learn (Hunzicker 2012, Poekert

2012). However teacher leaders need support in the form of collaborative cultures within their schools where learning is within an authentic context and socially constructed to enable diffusion of practices to others (King 2014), thereby enhancing the system's overall capacity (Frost 2012, King 2016). This is reflected in a recent policy shift in England which enhances the leadership role of a special educational needs coordinator (SENCo) (Department for Education (DfE) 2015). Given that many teachers engage with award-bearing courses in an individual capacity it will be interesting to see if teacher leadership was evidenced.

The IEP process

The IEP is underpinned by law in many countries affording it status as an educational and accountability tool. The IEP process is seen as the 'conceptual and practical intersection of policy, schools, and families of students with disabilities' and therefore 'the foundation for effective special education ... and positive student outcomes' (Blackwell and Rossetti 2014, p. 12). However, the contested nature of IEPs is clearly evident in the international literature which is replete with arguments either proclaiming or challenging their efficacy. A stark criticism by Mitchell *et al.* (2010) in their meta-analysis of 300 international studies highlighted the poor evidence for the efficacy of IEPs and the over-emphasis on the individual, undermining the extent to which IEP goals ensure access to the general education curriculum and consequently to an inclusive education (IDEA 2004, Blackwell and Rossetti 2014). In Sweden, concerns were expressed that 'IEPs largely seem to be used primarily as administrative tools rather than to help meet the educational and developmental needs of the students concerned' (Andreasson *et al.* 2013, p. 413). Student voice in the IEP process is not only a right (United Nations Convention on the Rights of the Child (UNCRC), United Nations 1990) but it supports student outcomes (Barnard-Brak and Lechtenberger 2010). The assumption that families and students are active, meaningful participants in the IEP process has been challenged (Andreasson *et al.* 2013, Blackwell and Rossetti 2014) with Mitchell *et al.* (2010) revealing that practice varies considerably. Similarly, research conducted in the ROI indicates that while the development of IEPs is an established practice, despite not being a legal requirement, there are inconsistencies with regard to approaches to the development, implementation and review of the process (Rose *et al.* 2012, NCSE 2015, Ni Bhroin *et al.* 2016). A common thread in all the aforementioned studies is the need for PD for all teachers to use the IEP as a functional tool in planning, implementing and reviewing educational practices. However, there is no guidance as to the type of PD needed for this.

Methods

Context

This study was located in the ROI where the DES has funded teachers' professional learning through postgraduate courses in seven universities. All three researchers were involved in teaching on the same Postgraduate Diploma in SEN. As such, it is an award-bearing model (Kennedy 2005) and the aim of this study was to explore the impact of this PD on participants 2–4 years after completion of the course. Given the concerns over lack of implementation (Guskey 2002, King 2014) and sustainability of practices, this research aimed to explore the longer-term impact of the PD on teachers' knowledge, understanding and practices with a view to informing planning for future courses.

Teachers involved taught students with SEN and represented a range of settings including primary, post-primary, special school, and special unit and/or special class attached to a particular school type. For eligibility of a place on the course teachers in mainstream schools had to be involved in learning support and special education. For the purpose of this study, the term SEN teacher will be used.

Design

There were two phases of data collection. Phase one was quantitative and involved the administration of a questionnaire designed to elicit teachers' perceptions of their knowledge, understanding and

Table 2. Data collection.

Method of data collection	Participants/documents	Number of participants
Focus group interviews	School staff involved with education of named student with special educational needs (SEN)	Five focus groups(23 participants in total)
Individual interviews	Parents/guardians of named student	Five individual interviews (six participants in total)
Individual interviews	Named students with SEN	Five students (four primary and one post-primary)
Documentary analysis	Any relevant documents made available, e.g. school policies on individual education plans (IEPs) and inclusion, students' IEPs, teachers' plans and records of progress	
Observation	Observation of teacher's practice and student's learning in a variety of school settings but particularly while learning in the mainstream class receiving additional support to document the use of the IEP in planning, teaching, learning and recording/monitoring outcomes	One visit per school (five school days in total)

practices related to the IEP process. Sampling was purposive as participants were chosen via postal survey from the 165 teachers who completed the Postgraduate Diploma in SEN in the academic years 2010–2011, 2011–2012 and 2012–2013. A response rate of 50.30% ($n = 83$) was secured.

Phase two was qualitative, prioritising individual stories of experiences of PD (Burchell *et al.* 2002) allowing for a more nuanced exploration of impact (King 2014) to reflect the complexity of the social world (Coldwell and Simkins 2011). This phase involved follow-up case studies in four primary schools and one post-primary school, the only schools that self-selected for participation in phase two. The qualitative aspects of phase two involved schools selecting one child who has an IEP. Based on this, individual interviews with the parents of the child and the child were undertaken along with a focus group in each school with class teachers, SEN teachers, school principal and special needs assistant(s). The research team visited each school for the duration of one full day to carry out the interviews, focus groups, observation of the child in the mainstream class and support setting and analysis of documents made available by the school (Table 2).

Data analysis

An identification code was assigned to each questionnaire for tracking purposes and all responses were coded and entered into SPSS for statistical analysis. The final coding frame included a total of 136 variables. Qualitative data were converted to text form, and using NVivo 10, data sets were coded by two researchers using a combination of deductive and inductive coding (Miles and Huberman 1994). The inductive coding involved an iterative process of reading, re-reading and assigning codes to units of data within and across each data-set. For deductive coding, codes generated from the PD evaluation framework (King 2014) were applied across the entire data-set. The coding process led to the development and refinement of a coding scheme, with the final version consisting of 125 codes. These codes contributed to 14 categories across all data sources covering inclusion, planning, assessment, teaching approaches, review, collaboration, links, supports, evidence of influence of PD, and student voice, outcomes and experience. A third researcher independently assigned the codes to the observational data, to a random selection of documentation and to half of the randomly selected interview transcripts thus evincing source triangulation and adding to the trustworthiness of the process (Hammersley and Atkinson 2007). Percentage agreement was 93%, which exceeded the 65 to 75% agreement considered to be indicative of good reliability in qualitative research studies (Boyatzis 1998). Categories supported the emergence of four distinct but interrelated key themes; inclusion, collaboration, student experience and PD.

For the purpose of this article key findings will largely draw on the theme of PD with reference to other themes where relevant for answering the research questions.

Findings

Findings will be presented by exploring the theme of PD from the qualitative data while also drawing on the quantitative data to substantiate or refute findings. Under the theme of PD were a number of sub-themes; evidence of teacher professional learning, changes in practice, student experience, and structure of the PD.

Evidence of teacher professional learning

Documentary analysis evinced IEP documents which had incorporated much of the knowledge and skills developed as part of the PD course, for example, the structure of the IEP documents included results of assessment, priority learning needs and targets for the individual student along with teaching strategies for supporting student learning. These findings are further substantiated in the quantitative data (see Table 3) which shows teachers' rating of increased knowledge, skills and practice related to the earlier aspects of the design and implementation of IEPs.

Evidence of assigning roles to individuals involved with the student along with dates for targets to be achieved and reviewed were also on some IEP documents. Overall teachers reported more positive outcomes in terms of '*testing, student profiling ... understanding of the process*' (Alison, School E, SEN teacher), along with the importance of having SMART targets. '*Even just knowing how to write targets ... was a big thing ...*' (Noelle, School C, SEN teacher), echoing Holland and Hornby's (1992) study, rating highly the ability to develop realistic targets for children with SEN. While documentary analysis of the IEPs showed a full range of targets; cognitive, affective and psychomotor skills, some teachers reported difficulty with establishing baselines, writing SMART targets and measuring progress in the affective domains e.g. social skills, which were described as '*hard to measure and judge [improvement in]*' (Tina, School B, Class teacher). Similar difficulties were reported for writing targets for students with complex needs.

Interestingly there was no evidence of IEP targets in class teachers' plans or of IEP targets being addressed in observation of teaching in the mainstream class. Quantitative data indicates further development needed in the area of collaboration, coordination and reviewing the IEP (Ní Bhroin *et al.* 2016). Noteworthy, in many cases there is little or no gap between an increase in knowledge and skills and changes in practice in each of the areas in Table 3. So whether or not the award-bearing course was transmissive or transformative (Kennedy 2014) will now be explored further under the second sub-theme of changes in practice.

Table 3. Teacher perceptions of enhanced or acquired knowledge, skills and practice.

Indicator	Competency type	Good to very good improvement	Unsure about improvement	Poor improvement
Selecting teaching methods/strategies to address targets	Knowledge and skills	96.4%	3.7%	0%
	Practice	94%	6%	0%
Diagnostic assessment to identify strengths and needs	Knowledge and skills	95.2%	3.6%	0%
	Practice	96.4%	2.4%	0%
Writing individual education plan (IEP) targets	Knowledge and skills	93.8%	4.9%	0%
	Practice	92.8%	6%	0%
Implementing IEP	Knowledge and skills	90.1%	8.6%	0%
	Practice	90.4%	8.4%	0%
Collaboration with others about IEP	Knowledge and skills	86.8%	8.4%	1.2%
	Practice	87.8%	11%	1.2%
Coordinating IEP	Knowledge and skills	84.4%	14.5%	1.2%
	Practice	84.4%	15.7%	0%
Reviewing IEP	Knowledge and skills	82.9%	15.9%	1.2%
	Practice	84.4%	14.5%	1.2%

Changes in practice

Changes in practice were reported by all teachers as a result of engagement with the PD course, albeit it to varying degrees. Changes were evident in terms of planning, implementation and review of the IEP process. Teachers reported an increased focus on assessment and clearer target setting and this was also evident in documentary plans and observation of students in support teaching context. While there was some evidence of class teachers assessing student's understanding of a lesson within the mainstream classroom there was little evidence of class teachers focusing on individual targets, the exception being class teachers of a special class in a mainstream school. Representative of teachers' comments, Miriam (School D, SEN teacher) highlighted that prior to the course she *'didn't feel confident ... a fear among staff ... going into this role ... they're petrified of ... all the different kinds of paperwork because they don't understand them'*. She urged that *'more work needs to be done on that'*. Perhaps this lack of confidence is indicative of why even at a planning level there was no evidence of contextualising IEPs into whole school planning and writing IEPs is the reserve of SEN teachers; *'we only get people who have done the course to do these [write IEPs] because at least we're all working from the same background'* (Colette, School C, SEN teacher). Arguably if IEPs are to be contextualised into whole school planning and delivery of curriculum then class teachers need to be involved also. Teachers need more support to progress from the perception of collaboration as information sharing, reflected in Emer's comment that *'everyone is on such a tight schedule that you know with the best will in the world it [sharing information] doesn't happen too often'* (School E, SEN teacher).

In relation to parents, quantitative results indicate that 78.3% ($n = 65$) receive a copy of the IEP with 88.6% ($n = 70$) parental presence at IEP planning meetings. For example within the focus groups it was reported that the SEN teacher coordinates the IEP and passes it to the parents and class/subject teacher(s) (Bateman 2011) for comment before a final draft is written and shared with all involved. *'I think it is very important that it is led by the teachers ... the teachers are the right ones to be setting the targets, parents are not'* (parent, School E).

In terms of implementation teachers also reported feeling more competent in devising and teaching programmes in collaboration with others, in taking risks and trying out new ways of doing things. Examples of collaboration include station teaching and co-teaching as evinced from the observation data. However one teacher's comment reflects that of many others when (s)he argued that classroom teachers *'are often so bogged down with curriculum matters/large numbers that they don't have time to do individual work on IEPs ... leaving SEN teachers "working in a vacuum"'* (Questionnaire). This arguably explains the numerous calls in the data for PD for all teachers with Grace (School E, SEN teacher) stating *'I don't want them to think it is coming from us, it's not, it's just good practice in general'*. Additionally, teachers felt it very helpful to have other colleagues within the school who had completed the programme already. *'Each time somebody comes back with new training, they are continually training us'* (Jane, School D, Deputy Principal, SENCo). When asked about the PD preparing teachers for a consultative role Colette (School C, SEN teacher) replied *'we ... did a module ... on collaboration'*. Despite this, the consultative role seems to have been limited to working with other SEN staff

Nevertheless, teachers reported innovative practices such as aligning individual targets with DEIS (Delivering Equality of Opportunity in Schools) (DES 2005) milestones for learning. Jane (School D, Deputy Principal and SENCo) said they are

'used as a sort of teaching tool ... for learning throughout the school ...' This may represent an attempt to contextualise IEP goals into the curriculum and whole school planning. However, there is no evidence of class teachers incorporating the targets into their planning. A typical comment, in this respect: *'I wouldn't really be writing down my differentiation within my planning ... that would be an innate thing that I would be doing within the classroom'* (Jo, School A, Class teacher).

Similarly reviewing of targets seems to happen informally with Alison stating that they are *'constantly un-officially reviewing it'* (School E, SEN teacher) and Emer (School E, SEN teacher) considering it to *'be a working document'*. Findings from quantitative data show that although teachers consider their practice improved (84.4%, $n = 70$) in this area, only 31% ($n = 26$) tick student's progress on the IEP targets. Documentary analysis reveals little evidence of dates for reviewing targets or assigning

responsibility to adults to work towards achievement of individual targets. It is however important to explore the impact of the PD on the students' experience.

Student experience

Observation revealed that the students with SEN were for the most part engaged and actively participated in their learning, whether in the mainstream class or withdrawal setting. The students' participation and engagement were secured through use of hands-on activities, and for example, working in pairs or smaller groups using station teaching. In the withdrawal setting, where teaching was focused on addressing IEP learning targets, student progress and achievement were evident and made highly visible in the recording systems in place and to which the students contributed (for example, word ladders, School C; TEACCH® movement from left to right in completion of planned activities, School D; recording of completed comprehension cards with associated skills, School A). In the mainstream class, although not directly addressing IEP learning targets, teaching was responsive to individuals and to varied ability levels. By way of illustration, in one mainstream primary maths class, where children were required to calculate coordinates following whole class explanation and examples, the teacher had a booster table in the centre of the room and extended an open invitation to all of those who felt unsure of how to proceed to come round the table for additional teaching, allowing the children to self-select (School A). In this way, the student with SEN was enabled to participate on the same topic and at the same level as mainstream peers while experiencing achievement.

The majority (74.4%; $n = 61$) of teachers stated the IEP is used to measure student outcomes. Teachers' perceptions of student outcomes were very positive, for example, *'you can see the progress ... laid out in the IEPs, whatever steps, things you want to achieve'* (Georgina, School B, Principal). Significantly, parents were happy that IEP targets were reviewed and monitored with some schools doing this annually and others biannually. One parent (School E) highlighted the importance of this in saying it *'lets me know where he is at and lets me know where we want him to be in a few months time, so I just make lists from it and that's very important'*. Arguably the monitoring function of the IEP as indicated by the parent allows for tracking of progress which contributes to the understanding of student achievement.

All students had views, expressed preferences in terms of the IEP process with some preferring not to attend IEP meetings. Only 27.7% ($n = 23$) of respondents reported that students are provided with an opportunity to express their views with 44.6% ($n = 37$) indicating 'sometimes'. *'I think it depends on the child's age. You know, the child that A is dealing with ... he's well able to articulate his needs ..., but with some of the younger children, it doesn't always work, you know, they don't really understand the process ...'* (Principal, School D). Perhaps the PD did not emphasise student voice in the IEP process.

Structure of the PD

Findings indicate teachers valued the collaborative, face-to-face and job-embedded or application-oriented elements for transferring learning into practice. For example:

The structure of the course was great ... you go off for your month, and then you're back in school ... immediately putting into place what you've learnt ... (Colette, School C, SENCo)

Noelle valued the face-to-face nature of the course (School C, SEN teacher) finding it *'much easier, than being in a live classroom ...'* even though the online classes/discussion forums did provide opportunities for information sharing.

Others felt supported by

the group I was with ... four or five ... real support during the course ... we were back in our school we were still in touch ... just having that network of teachers—because often you can be a lonely learning support teacher, and you may not have anyone to ask questions of, so I thought that was a real advantage doing the course ... (Noelle, School A, SEN teacher)

Interestingly, Emer noted:

the model is very good. It's excellent. But I do think ... the fact that Deirdre [another SEN teacher in her school] ... did the course as well ... I think the pooling of ideas, pooling of experience, pooling of learning is very important. (School E, SEN teacher)

In four out of five schools class teachers mentioned other SEN teachers, who had engaged with the PD previously, supporting them in learning about IEPs. While two of these class teachers acknowledged having some input on SEN in their undergraduate degree they felt

Now it's more real life ... I wouldn't have felt confident after doing that three years [undergraduate degree]. So it was great to have that someone who knew what they were doing ... I remember it in lectures all right but I had very little practice. (Laura, School E, class teacher)

Discussion and conclusion

The earlier findings will now be discussed in terms of any knowledge practice gap (Kennedy 2014) and in relation to the nature of the PD which supported teachers' changes in practice (Wearmouth *et al.* 2000). This will be done with reference to the conceptual framework. Implications for teacher educators nationally and internationally in planning PD experiences around the IEP process will also be considered.

Data arising from King's (2014) aspects of *learning outcomes* and the *degree and quality of change* suggest that new knowledge and skills, and changes in practices related to the IEP process was a pervasive outcome for all teachers who had undertaken the programme. However the levels of use and understanding in this section allowed for a nuanced understanding of teachers' practices related to the design, implementation and review of IEPs. The quantitative data demonstrated that generally IEPs appear to be used as a functional or pedagogical tool (Co-Ní Bhroin *et al.* 2016) with varied practice between technical and critical levels (King 2014) across the five case study schools. Overall teachers reported strong improvement in their use of diagnostic assessment to identify strengths and needs to inform IEP goals, with the exception of the non-academic targets (Ní Bhroin *et al.* 2016) and this was further corroborated in the focus group and documentary data. Also practices related to monitoring and reviewing of targets are reflective of somewhere between 'non-use' and 'technical' levels of use, mirroring conclusions from Prunty (2011). Acknowledging that the IEP may be a working document for all of the five case study schools the documentary evidence suggests that further work is required at an organisational level in terms of increasing class teacher involvement in officially reviewing progress to support contextualising IEP goals into the curriculum and a whole school approach to planning. While it is important not to focus solely on the individual and lose sight of the curriculum and the student's teaching and social environment (Mitchell *et al.* 2010), it is equally important not to narrow the curriculum and lose the focus on the individual in favour of planning and teaching to milestones (Caruana 2015).

At a personal level teacher confidence and efficacy related to the IEP process was evinced. However there was little evidence of formal collaboration for coordination of the process. Despite 87.8% ($n = 72$) of SEN teachers reporting that their skills in collaborating with others about the student's IEP had improved to the extent of either 'very good' or 'good', evidence indicates that collaboration relating to the IEP process requires further development. A number of teachers talked about the PD in terms of 'training' which suggests a technical rational approach to teaching and learning instead of one which more accurately represents its complexity, and requires more than informal collaborative practice with colleagues. One recurring sentiment expressed by teachers was the need for PD for all teachers (Jenkins and Ornelles 2009) despite many of the SEN teachers appearing to enhance capacity with other IEP team members. Conceivably, SEN teachers who have engaged with the PD do not feel confident in enhancing capacity within their own schools. Currently practices could be described at an 'orientation' level of use which arguably needs to be moved towards 'accepted' or 'critical' levels to enhance student outcomes; something for teacher educators to consider. Similar findings were echoed strongly in the questionnaire where 98.8% ($n = 81$) of teachers strongly agreed/agreed that PD on the IEP process is

essential for all practising teachers. Perhaps supporting teachers to become teacher leaders through their job-embedded PD (Poekert 2012) might warrant consideration.

Low levels of student engagement and participation were reported consistent with findings from other Irish studies (Prunty 2011, Rose *et al.* 2015). Explanations for lower levels of children's participation provided by their teachers and parents are consistent with barriers typically reported in previous research (Lundy 2007, Blackwell and Rossetti 2014), including age and capacity of the children to engage in meaningful decision-making processes. Similarly in terms of parents being active, meaningful participants in the IEP process, practice varied considerably and the five schools are arguably not functioning at a critical level (King 2014) with practice reflective of 'symbolic' and not 'real' meaningful engagement (Skrtic 2005). This stands in contradistinction to 96.3% ($n = 78$) of teacher respondents in phase one who strongly agreed or agreed that involvement of parents was essential. King's (2014) Systemic factors allowed for exploration of the nature of the PD which supported/hindered the design, implementation and review of the IEP process.

Support

Principals supported teachers by releasing them from school to engage with the award-bearing course. All principals attended the focus group interview, for at least some of the time, and demonstrated their procedural and conceptual knowledge of the IEP process. Georgina (School B, Principal) agreed to create time for SEN and class teachers to meet to review IEP targets. However PD was largely seen as '*training ... willing to send people out*' (Martin, School D, Principal) or '*getting somebody in ... a presentation ...*' (Rose, School A, Principal) instead of more transformative models of PD such as collaborative inquiry (Kennedy 2005, 2014) where the SEN teachers who had engaged with the award-bearing PD could serve beyond the classroom by engaging in other models of collaborative practice such as coaching, peer observation, mentoring, and collaborative professional inquiry (Hunzicker 2012). Having teachers as change agents/leaders along with the development of collaborative cultures is important for implementation and sustainability of practices (Guskey 2002, King 2014, 2016); endorsing these aspects of support on the PD framework.

Initiative design and impact

Despite the IEP process being a complex one, teachers from the case study schools felt the assignment on the course supported them in implementing the process at school, albeit to varying degrees. Teachers liked being given a structure for the process and a template for the plan, '*... kind of training and planning ... keeps you really focused, what you need to do for the child ... used it as a model, many times ...*' (Alison, School B, SEN teacher). Teachers' perceptions of the impact on student outcomes has led to them wanting to sustain the IEP process as '*it is best practice really to have an IEP, and get everybody involved*' (Alison, School B, SEN teacher).

The design of the task/initiative and its perceived success for students was supportive for the individual teachers (King 2014, 2016). What is less clear is the suitability of the learning experience to promote and support collaborative cultures in schools; an essential component of the IEP process.

Teacher agency

Teachers' openness and willingness to engage with the IEP process along with being able to mediate barriers in a way that meets their personal and professional needs has influenced its sustainability (King 2016). For example, Colette (School C, SEN teacher) used her agency by calling the IEP an individual learning profile as IEPs are not legal and not endorsed by the teacher unions at secondary level.

Teaching and learning is a contextual and complex process influenced by various determinants at play; arguably those outlined here under Systemic factors, thus making this aspect of the framework influential for those planning and evaluating change.

Implications for teacher educators

Overall findings highlighted strengths and needs in relation to the award-bearing model of PD (Table 4) allowing for an elucidation of the problems integral to understanding change in the schools; which we argue are instructive rather than accounts of practice.

While IEPs are being developed in all contexts, teachers' use of practices with writing targets in non-academic areas and for students with more complex needs tends to be at the 'orientation' level (King 2014). Overall, further alignment is needed between IEP targets and curriculum goals to ensure that there is not an overemphasis on the individual and less on the student's learning and social environment (Mitchell *et al.* 2010) and that IEPs are contextualised within whole school planning and delivery of curriculum (Ní Bhroin *et al.* 2016). Arguably SEN teachers need further support on collaboration with class teachers, to avoid working in a vacuum, by extending the IEP targets into class teachers' plans and thus focusing on IEPs as a pedagogical tool across the school. Additionally, monitoring and reviewing of targets needs considerable attention so that IEPs are used as an educational and an accountability tool (Bateman 2011, Andreasson *et al.* 2013) along with further support in meaningful collaboration with parents and accessing student voice in all aspects of the IEP process to align with the UNCRC; practices where there currently is a knowledge practice gap (Kennedy 2014). Noteworthy is teachers being able to narrow the knowledge practice gap by having prior experience before engaging with the course thus questioning the issue of mandatory PD before working in the role of an SEN teacher.

This article argues that the quality of IEPs is largely dependent on the quality of the collaborative practice involved in the process. Given the vast amounts of money spent on PD it is incumbent on teacher educators to support teachers to engender meaningful collaborative processes around the IEP. While it is evident that this award-bearing model was 'useful' (Kennedy 2014) for SEN teachers and facilitated linking theory and practice through a longer-term, face-to-face approach with the university, it clearly needs to consider how to address the issue raised by almost all participants calling for PD for all teachers; an epistemological and economical quandary. Arguably enhancing the job-embedded approach to PD to result in teacher leadership (Poekert 2012) and enhanced teacher agency and autonomy (Kennedy 2014) where teachers feel confident working with and through all teachers (Florian and Spratt 2013) might be worth consideration for teacher educators in getting collaborative practices and capacity building operating at a 'critical' level in schools. Noteworthy in three of the five case study schools more than one teacher engaged with the PD course at some stage. Arguably,

Table 4. Strengths and needs of the award-bearing model of professional development (PD).

Award-bearing model			
Content		Structure	
Strengths	Needs	Strengths	Needs
Preparation and construction of individual education plans (IEPs): learning goals, teaching strategies, resources and supports Implementation of IEP	Assessment and writing targets in non-academic areas and for pupils with Complex Learning Profiles (CLPs)	Face-to-face	Teacher leadership
	Alignment of targets with curriculum goals	Over time- continuous	Capacity building
	Contextualisation of IEPs into whole school planning and curriculum	School university partnership	Collaborative
	Monitoring and reviewing of targets	Job-embedded	School cultures
	Collaboration focused: parents and students		Prior experience Having (an)other teacher(s) in the school who has done the course Principal support

Table 5. Planning professional development (PD) (King, 2016).

Baseline	Goals: Where are we now? Where do we want to go?
Degree and quality of change	Student outcomes: What will the students be able to do? Organisational: What products/processes will help to achieve the outcomes e.g. policies, staff meetings, time, resources ... What instructional practices (evidence-based) and processes will produce the desired student outcomes? Lived experiences of collaboration
Systemic factors	Diffusion: How can we enable diffusion of the practices to other adults and students? Lived experiences of leadership <i>Support:</i> What support will teachers need to enhance teacher engagement e.g. leadership support, change agents, professional learning community ... ? <i>Initiative design and impact:</i> Is the PD design structured and research based, feasible and focused, meeting teachers at their zone of proximal development (ZPD), collaborative ... ? Postiive impact on students? <i>Teacher agency:</i> Are the teachers open, willing and motivated to engage with change/a new practice? Do teachers understand the pedagogy and pedagogical content knowledge (PCK) related to the task?
Learning outcomes	What knowledge, skills, attitudes will be needed to implement the new practices?
PD experience	What activities/experiences/model of PD do teachers need to gain the required knowledge or skills? Does the model match the purpose?

teachers influenced each other, reflective of the fact that teachers value the opinions of other teachers (Vermunt and Endedijk 2011). Whether or not having more than one teacher per school involved to support this process is worth consideration (Vermunt and Endedijk 2011) as is getting the principals involved to provide leadership support (King 2011). Furthermore, offering students 'lived experiences' of collaboration and leadership may also support narrowing the knowledge-practice gap here (King forthcoming) as little t (practical experience) may help to make sense of big T (Theory) (Korthagen 2004) with teachers needing to have experience (t) to draw upon to understand the big T (Korthagen 2004).

Planning for this future PD should take cognisance of King's (2014) 'Systemic factors' to support teacher engagement with the PD and implementation of changes (Table 5). The framework will allow for planning with the outcomes in mind and working backwards towards the 'PD experience' to best support the development of these outcomes (King, 2016), thus affirming the value of the framework (King 2014). It is hoped that the earlier mentioned insights may help teacher educators to understand the motivating factors for teachers engaging with award-bearing PD in a transformative manner (Burchell *et al.* 2002, King 2016) and in particular to focus on enhancing teacher leadership and capacity building within schools to ensure that curriculum access is achieved within an inclusive environment.

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