# Extending experiential learning in teacher professional development

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## HIGHLIGHTS

- We developed a three phase programme of teacher professional development founded on experiential learning.
- Teachers' shared reflections demonstrate how the programme influenced their beliefs.
- Positive outcomes for students were observed by teachers from the very start of the programme.
- Directly observable changes in student behaviour and outcomes were biggest motivators to maintain changes.

## ARTICLE INFO

## ABSTRACT

This paper introduces the use of experiential learning during the early stages of teacher professional development. Teachers observe student outcomes from the very beginning of the process and experience new pedagogical approaches as learners themselves before adapting and implementing them in their own classrooms. This research explores the implementation of this approach with teachers in Irish second level schools who are being asked to make significant pedagogic changes as part of a major curriculum reform. Teachers' self-reflections, observations and interviews demonstrate how the process and outcomes influenced their beliefs, resulting in meaningful changes in classroom practice.

## 1. Introduction

Experiential learning in teacher professional development is not a novel concept and its reported use has focused on the experience of teachers developing their practice whilst in the classroom: experimenting, reflecting and adapting new theories, practices and content they have been introduced to in their own professional context. This process can be individual with reflection used as a tool for self-direction (Minott, 2010) or shared through professional development activities such as lesson study (Fernandez, 2002) and participation in professional learning communities. However these types of professional development activities cannot fully address the demands of initial professional development in the context of radical national curriculum reform.

The study reported in this paper occurs during a time of just such a reform in Irish second level (secondary, ages 12–18) education. The reforms introduce 21st Century Skills, Assessment for Learning, a flexible curriculum and a new focus on Information and Communications Technology (ICT) to a system which is characterised by instructivist approaches to teaching and learning and an inflexible, overcrowded and overly exam focused curriculum (NCCA, 2010). As part of the piloting of these reforms the Bridge21 model [blinded for peer review] for 21st Century teaching and learning was adapted and trialled in several schools. This pedagogic model provided an approach which was compatible with the aims of the reform but was radically different to many teachers' existing practices and beliefs.

Almost every country in the world has undertaken some form of curriculum reform over the past two decades, yet there are often insufficient supports provided for teachers to adjust and develop new practices to their own contexts (Camburn & Han, 2015). The

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importance of professional development which involves active learning and reflection is well established (Clarke & Hollingsworth, 2002; Desimone, 2011), yet the initial introduction of new ideas and practices are still presented to teachers using traditional approaches such as transmission of information and observation of 'expert teachers' with experienced classes, which does not attend to the personal nature of professional development. Additionally there is often an assumption that having engaged in professional development activities teachers will be able to simply replicate the practices that they have been exposed to (Datnow, Hubbard, & Mehan, 2002). The expectation is that change will be rapid and universal, whilst there is substantial evidence to show that professional development is an ongoing process in which teachers adapt what they know to their specific context.

To address these issues, this paper presents a three phase approach to teacher professional development for the introduction and adoption of innovative pedagogic practices, which is theoretically underpinned by experiential learning. These experiences need to real. That is, they cannot be artificially constructed or controlled to produce a desired outcome (Roberts, 2012). Thus they are inherently messy and their potential impact can be lost if they are sanitised and 'dropped in' as part of a professional development programme. This highlights an issue for out-of-school professional development activities which involve experiential learning and are designed for any teacher. As Blair notes, "simply inserting experiential activities into teaching without providing a consistent experiential pedagogical framework diminishes success for learners" (2016, p5). The approach presented in this paper coherently spans both in and out-of-school contexts, providing authentic and personally meaningful experiential learning activities through which teachers can attend to both intellectual and personal development needs.

This paper aims to explore the experiences and outcomes of teachers who participated in the first full year of the programme, through their own reflective accounts. Open interviews with teachers constitute the primary data source which were analysed using the constant comparative approach to develop a thematic analysis of their experience. Documentary evidence and interviews with students provided a secondary data to further explore aspects of the findings. The resulting changes in professional practice are demonstrated through the main themes emerging from the study which highlight the role of the teacher, challenges to change and the support structures needed to foster changes as teachers engage in professional development. We also discuss the emotional impact of the professional development experience on one particular teacher which highlights the pressure to maintain the status quo during a time of uncertain reform.

## 2. Background

For teachers, professional development is both an intellectual and personal endeavour which requires not only engagement with new and differing ideas about education, trying out new activities and developing classroom practice, but also an emotional response as personal beliefs are challenged (Bell & Gilbert, 1994; Day & Sachs, 2004; Stoll, Harris, & Handscomb, 2012). Traditional models of teacher professional development have been characterised as teacher-centred, focusing on the transmission of information to teachers with an assumption that the learning which occurs for teachers is an individual process that leads to an immediate change in their practice and the ability to apply the new approach in a variety of contexts (e.g. Bausmith & Barry, 2011). However, research has shown that this does not happen in practice (Guskey, 2002; Pickering, 2007).

Guskey (2000) questions the effectiveness of traditional

approaches to professional development, such as one off events, increases in salaries for those who gain graduate qualifications and time-off in lieu, all of which have been features of teacher professional development in Ireland in the recent past. While these approaches can motivate teachers to attend, and through attendance teachers awareness of issues and development of their knowledge and skills do occur, they can also perpetuate out-dated forms of professional development (Monahan, 1996) which are "insufficient to foster learning which fundamentally alters what teachers teach or how they teach" (Boyle, While, & Boyle, 2004, p47). It can also be argued that there is insufficient opportunity to develop and respond to feelings in relation to accepting that aspects of their teaching may be problematic, dealing with restraints and feeling empowered; the stages of personal development which Bell and Gilbert (1994) identify as necessary for holistic teacher development. Yet this makes an assumption that the starting point is a deficit within the teacher. Luneta (2012) suggests that instead it is more valuable to recognise the knowledge and experience which the teacher brings to professional development experiences and build upon this with teachers involved in the design. While in a period of national reform the former may provide a better starting point for professional development, without denying the importance of past experiences, assuming that the existing practices of most teachers do not correspond to the planned reforms. However this risks the alienation of teachers from the very start of the professional development process which will negatively impact any reform attempts.

### 2.1. Experiential professional development

Personal development, as part of professional development, is most often attended to and demonstrated through reflective activities (Avalos, 1998). As traditional models of teacher development have waned internationally, there has been a new focus on teachers as active participants in their own learning encouraged through reflective practice (Clarke & Hollingsworth, 2002). This focus on reflection and active participation has seen a growth in professional development theoretically underpinned by experiential learning. Rooted in the work of Dewey, Piaget, Vygotsky and Hahn, experiential learning is an overarching term used to classify several different forms of learning approaches, including problem and inquiry-based learning. Yet at the centre of each is a focus on a lived experience upon which learners can reflect, think and act. The nature of experiential learning is fairly well understood and agreed upon. Although notions of cycles and steps popularised by the work of Kolb amongst others have been thoroughly critiqued, the concepts within these perspectives remain the foundation of experiential learning design: action that results in experience, reflection on action and experience, abstraction drawn from reflection and action resulting from this reflection. It is worth remembering that Dewey (1933) stated that not all experience results in learning. Experiential learning, much like professional development, is a process of change within the individual. For each learner it is unique as they draw upon their own past experiences as a foundation to engage with the new. In teacher professional development it is suggested that this approach can motivate teachers to try new practices and make desired changes to the curriculum a practical reality (Darling-Hammond & McLaughlin, 2011).

Reflection on action as a key tool for professional development has seen substantial growth in recent years, whether used as a tool for self-direction (Minott, 2010), or developing understanding and practice through sharing experiences. For teachers within a single school, lesson study is one such collaborative approach on which there is a growing international literature (e.g. Ono & Ferreira, 2010; Norwich & Ylonen, 2015). This approach allows the teacher

and a critical peer to evaluate student learning and identify opportunities to develop practice to meet learner needs. Lieberman (1995) highlights the importance of colleagues from the same school learning with and from each other, which provides an opportunity to address contextual factors that may limit the impact of traditional professional development approaches. Further, teachers can engage in conversation, collaboration and observation, which Fullan (2001) identifies as necessary for effective changes to professional practice, as well as individual and collaborative reflection on their experience of implementing new initiatives (Van Driel & Berry, 2012). While there have been positive outcomes using these approaches, there are important contextual factors which can limit its efficacy due to the time-intensive nature of this professional development activity carried out in school time. Another approach has been the development of professional learning communities (PLCs) through which teachers share and discuss their experiences typically out of school time with teachers from other schools. While the need for knowledge and practice transfer between teachers within and across schools is an important factor in national reforms (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006), it is unclear as to the extent to which teachers participate in these communities, who does not and why, and what barriers are faced by those who do.

Camburn and Han (2015) found that teachers were more likely to reflect on experiences which focused on classroom teaching and those who engaged in reflection more often were more likely to report a change to their professional practice. However reflection can appear to be a nebulous panacea for professional development. A clear structure may be required, linking reflection activities explicitly to intended changes in professional practice by providing suitable prompts for reflection, or providing a similar experience for groups of learners which they can later discuss and meaningfully share their reflections on. While existing approaches to professional development which are underpinned by experiential learning and are classroom based have been shown to be effective in addressing personal beliefs and developing effective practices, there remains the question of how to effectively introduce new practices in the early stages of a national reform. Attending to the personal is particularly important as teachers accept or reject the need for reform which highlights problematic aspects of their teaching. As teachers' relationship to the curriculum and to themselves are considered to be of particular importance in educational reform (Zhu, 2010) without their acceptance the reform may lead to a change in rhetoric but not practice. The use of experiential learning at the earliest stages of professional development in this context may provide a solution.

### 2.2. The irish context

Those recruited to teacher education courses in Ireland are high-achieving students for whom the existing system has been effective. As successful students they are likely to perceive the ways in which they were taught as 'good teaching' and are therefore likely to perpetuate those pedagogical practices and consequently unlikely to be willing to consider and adopt new approaches (Sugrue, 1997). While school placements during initial teacher education provide a valuable source upon which to develop a practical understanding of how theories introduced on a course play out in specific contexts, McGarr and McCormack (2014) found that normative effects of existing cultural practices in Irish classrooms limit the levels to which student teachers engage in critical reflection to challenge existing structures and assumptions. It is these formative experiences which provide the foundation of knowledge and beliefs about what it is to be a teacher which subsequent professional development must build upon.

In 2012, the Department for Education and Skills (DES) in Ireland announced a major reform of the Junior Cycle (students aged 12–15) (DES, 2012). This move for reform followed a review by the National Council for Curriculum and Assessment (NCCA) which found: the existing curriculum was inflexible, overcrowded and overly exam focused; the transition between primary and secondary level education was poor; and there was a decline in numeracy and literacy standards (NCCA, 2010). The nature of and focus on national assessments at second level education meant that schools and teachers often abandoned creativity and innovation in favour of transmission of information and rote learning (Forfás, 2009). The net effect for students has been that when they transition from second level education, they struggle to learn independently and collaboratively, and it has been suggested that they have under-developed higher order skills such as problem-solving, critical thinking and creativity (Hyland, 2011; Smyth, Banks, & Calvert, 2011).

The new curriculum reform was introduced on a pilot basis in 2012 with phased implementation nationwide from 2014 onwards. It includes changes to the content and structure of the curriculum, introducing the flexibility for schools to decide on the components to be studied. There is also a new emphasis on so called '21st Century skills' such as critical thinking, creativity, learning with others and learning through technology (DES, 2015). To develop these skills pupils need opportunities to engage in collaborative learning and teaching must move away from instructionist approaches.

### 2.3. Bridge21: a change to professional practice

With a profession ensconced in traditional didactic approaches, such radical educational reforms require a substantial change in pedagogical approach. One such approach is the Bridge21 model for 21st Century teaching and learning (Lawlor, Conneely, & Tangney, 2010), initially developed within a lab-school environment as part of an outreach initiative in the authors' university. The Bridge21 model is designed to leverage the potential of technology-mediated learning within collaborative team-based learning, where teachers orchestrate and scaffold activities. The approach to team-work is based on the World Scout Movement model (Bénard, 2002). Learners participate in student-led, cross-curricula projects within a learning space configured to support team-based learning and at regular points throughout each project, individuals and teams engage in semi-structured reflective activities (Lawlor et al., 2010).

Theoretically underpinned by experiential learning and constructionism, teamwork is the most distinguishing aspect of the Bridge21 model and perhaps the most alien to traditional didactic and individualised formal second level education in Ireland. At the time of this study there was also no requirement for technology to be integrated in teaching and learning and its use would be dependent on the teacher and the school.

The early proposals for reform provided an opportunity to adapt the model for use in mainstream classrooms. In 2011/12 a pilot study sought to deliver the core curriculum and demonstrate how Bridge21 could support the proposed Key Skills, Assessment for Learning and flexible curriculum of the national reform programme (Conneely, Girvan, & Tangney, 2012; Conneely, Girvan, Lawlor, & Tangney, 2015). Over a relatively short period of intervention, Johnston, Conneely, Murchan and Tangney (2015) found an overall gain in learners' sense of self-efficacy for Key Skills in the categories of 'being creative', 'working with others', managing information and thinking' which were specifically investigated. With growing interest in the approach and awareness of the planned reforms, schools were keen to engage their teachers in suitable professional

development programmes.

## 3. Design of an extended experiential approach to professional development

This study focuses on the design of and teachers' response to a professional development programme designed to introduce teachers to a new model of teaching and learning. While we know that professional development which actively engages the learner within their own professional context is more beneficial than passive attendance (Desimone, 2011). Harford (2010) likens the approach in Ireland to that commonly experienced across Europe, characterising it as fragmented, ad hoc and lacking theoretical grounding.

Day and Sachs (2004) highlight the value of engaging teachers in professional development experiences which are meaningful and in alignment with their personal beliefs and values. When we look at the actions of many teachers in Irish second-level classrooms we observe instructionist approaches to teaching and learning. Therefore it is logical to suggest that these teachers would prefer this type of approach in their own professional development and hence the persistence of this type of programme. Yet curriculum reform requires changes to curriculum content, pedagogic practices and, perhaps most importantly, teachers' ways of thinking, ways of talking and identities (Avalos, 2006). Therefore to sustain these practices in professional development is problematic, particularly when teachers themselves will be required to change their own practices.

To initially introduce teachers to Bridge21 and support their developing practice in the classroom, experiential learning was employed as the theoretical foundation, mirroring the pedagogic model itself and resonating with much of the proposed reforms. Although familiar to educators, experiential learning is relatively uncommon in the day-to-day activities of many Irish secondary school teachers. However Butler and Leahy (2015) argue that a school-focused, job-embedded, sustainable framework for professional development could effectively support teachers in Ireland to move from traditional instructionist approaches. Of particular relevance here are the features of effective professional development identified by Stoll et al. (2012).

The model presented here extends the typical use of experiential learning from within the professional context to the first introduction of the teachers to the model, outside the classroom. It involves three phases of experiential learning: observation of learners, participation as learners and an iterative cycle of action, reflection and subsequent planning (Fig. 1).

### 3.1. Observation of learners

There are two professional development activities which form the initial experience and aim to introduce teachers to Bridge21 before they begin to implement it for themselves in the classroom. The first of these is the observation of learners.

Adhering to the relational approach advocated by Blatchford et al. (2003), an important component of the Bridge21 approach is an initial workshop for students to introduce them to working and learning as part of a team, before encountering a curriculum-focussed team-based lesson in the classroom. Workshops provide students with an important opportunity to learn and develop their skills of *how* to work and learn as part of a team during specifically designed technology-mediated, project-based activities.

Guskey (2002) identifies positive changes in student outcomes as one motivating factor for teachers to change their own practice. While this may be the ultimate long-term aim of professional development, we suggest that it should be possible to demonstrate
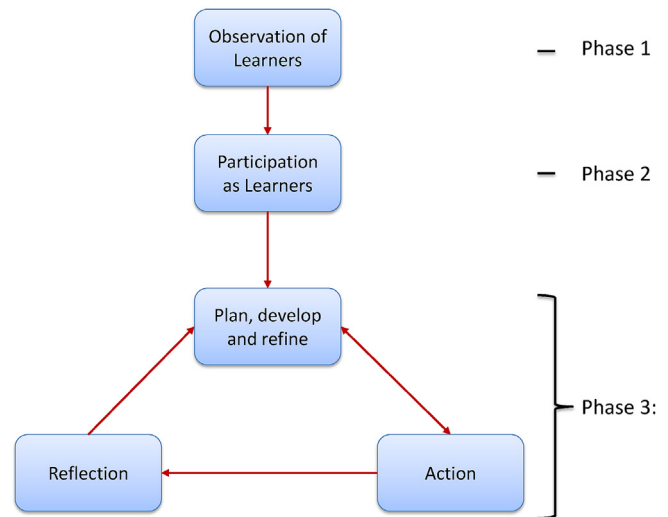


Fig. 1. Overview of the experiential CPD model.

positive outcomes for students at the outset, in order to engage this motivational factor early on. To this end, we use this introduction to Bridge21 student workshop as the opportunity to provide teachers with their initial experience of the model. While their students are first introduced to Bridge21 activities, teachers are given an oral presentation on the model and then engage in structured observation of their own students participating in a Bridge21 learning experience. The structured observation takes place at intervals and requires teachers to focus on the interactions and behaviour of two of their students. The teachers are then provided with an opportunity for structured individual reflection on what they have observed, including identifying any impact the approach to learning had on the learners that they observed. Following this, teachers engage in a reflective dialogue with colleagues.

This provides the first experiential learning experience which forms the foundation of learning. Such a significant, personal experience can be highly influential (Boud, Cohen, & Walker, 1993). Teachers can observe and speak to an experienced Bridge21 practitioner throughout the experience but perhaps most importantly they can observe and speak to their own students, thus making this first experience personally meaningful and directly relevant to their own context.

### 3.2. Participation as learners

While the opportunity to observe the practice of others and the outcomes for their own students has the potential to influence teachers' own classroom practices, another important factor is teachers' own experiences as learners. As previously highlighted, in the context of this study many teachers have had limited experience as learners of the individual components of planned reforms to education and repeated experiences from the time they were students to their professional career have reinforced traditional classroom practices which have changed little over the years. Part of professional development is learning how to learn (Avalos, 2011) and taking both teacher and student roles in professional development can deepen teachers' understanding of the pedagogic innovation (Darling-Hammond & McLaughlin, 2011). Therefore teachers participate in a Bridge21 experience as learners themselves.

The 'Participation as Learners' activity for teachers comprises a cross-curricular ICT-mediated team-based project of 2—3 h

duration, similar to the one experienced by students during their initial workshop. Michaelsen and Sweet (2008), suggest that groups should be as diverse as possible, so teachers are assigned to work in interdisciplinary teams to provide them with an opportunity to collaborate with colleagues from their own school who they might not ordinarily work with, which serves to support the development of a professional learning community once teachers return to school.

Reflection is a key part of experiential learning and a common feature in many current professional development activities. Mason (1993) highlights the importance of developing an ability to notice not only what is going on around the learner but also within the learner. Therefore to scaffold the reflection, teachers are asked to individually reflect on their experience and how it relates to their own professional practice, before discussing the experience from their own perspective within their team. This is followed by a wider discussion between all colleagues about the Bridge21 approach, what they observed of their learners, their own experience and how they could begin to integrate the approach into their own professional practice. This discussion is facilitated by experienced colleagues but is led by the teachers themselves, with the aim of identifying particular actions to try out in the coming weeks. Each teacher then identifies and records what they plan to do, to encourage teachers to take personal responsibility for their on-going engagement with the programme through tangible changes in practice.

### 3.3. Ongoing development

The third phase of professional development in the ongoing planning, action and reflection in the classroom over the school year. Hopkins (2001) suggests that teachers need to feel that they have discretionary autonomy to make decisions so that they can support each learner within each unique context. Teachers were left to make their own decisions about which classes they implemented Bridge21 with, how often and for how long. Teachers were encouraged to share and collaborate when-ever possible but this was not required. They could choose to implement aspects or the whole model, on their own or collaboratively with colleagues, when they first returned to their schools and could choose to share reflections with colleagues or use them as a tool for self-direction. To support this process members of the Bridge21 team met with teachers over the course of the year.

The Bridge21 model requires teachers to innovate beyond their current practices. Thurlings, Evers and Vermeulen's (2015) review of the literature did not include any articles from Ireland, but perhaps more importantly also demonstrated that there has been no consideration of the role of professional development as a factor for innovation. While there may be some that believe that directly following professional development teachers can enact substantial changes in the classroom (Bausmith & Barry, 2011), we know that change is a gradual process (Gusky, 2002) and so will the development of innovative practices. This was made explicit to the teachers who participated in the professional development, with evidence of innovative activities emerging throughout their developing professional practice in school.

To support the development of a fledgling community of practitioners, an end-of-year event was held. Teachers were invited to present examples of the activities and within small groups of teachers from different schools they shared and discussed their experiences over the year, plans for the future and the national reforms.

## 4. Methodology

This paper aims to explore the experiences and outcomes of this experiential approach to professional development for teachers who participated in the first full year of the programme, primarily through their own reflective accounts.

### 4.1. Participants

A total of twelve schools participated in the study. Of these, eight schools had been involved in an initial pilot the previous year from which the CPD model was developed, and four were new to the programme. Four schools (two from each year of the programme) are classified as socio-economically disadvantaged schools. Participant schools were either single sex (girls) or mixed and all taught through the medium of English. School size ranged from 125 students to 934 and included two fee paying schools.

An opportunistic sample of 38 teachers from the various schools volunteered to participate in both the professional development and research. The teachers had a broad range of backgrounds, in terms of subjects taught, experience using technology and length of service which ranged from two to thirty two years of experience. Although 38 teachers gave their informed consent and participated in the full range of CPD activities, they did not all participate in all data collection activities. Documents were not received from 5 teachers after the initial observation of learners and only 21 teachers participated in either individual or group interviews towards the end of the year. The reasons for this apparent drop-off in participants were the limited opportunities for teachers to be released during the school day or their unavailability to participate in interviews outside of the school day.

In order to meet the needs of individual schools, teachers and students, the overall time commitment was subject to discussion and agreement between school management and Bridge21 staff. A proposed schedule of up to 50 h of workshop delivery and ongoing support, dependent on the number of teachers and students to be involved, was tailored to suit the individual needs of each school.

Depending on the level of engagement with school leadership and the school's previous engagement with Bridge21 in the pilot year, it was possible for the external scaffolding to be withdrawn during the year and be replaced by peer support from fellow teachers within the school. As external support was withdrawn, alternative opportunities were provided for teachers across the network of 12 schools to meet and discuss their ideas at events hosted in the authors' university during the year, providing opportunities to share practice as part of a developing community beyond the school.

### 4.2. Data collection

In order to begin to understand whether this approach to CPD can support teachers to make changes to their pedagogical practice, the research reported here focuses on the responses of the teachers involved. Rather than focus simply on what could be surface-level actions, or the so-called happiness quotient, common in much of the past literature (Sparks & Hirsh, 1997), the authors were interested in the beliefs and experiences of the teachers. Therefore descriptive, qualitative techniques were used and a range of data was collected from teachers new to the Bridge21 learning model, from both new and returning schools.

The student workshop provided the first data collection opportunity. To structure their observations, teachers were provided with a short document to complete. Under headings of Pupil 1 and Pupil 2, teachers were asked to write notes about two students of their choice noting behaviour, interactions and organisation within

the team, as well as the pupils' engagement with the task, at different points throughout the activity. Teachers were also asked to capture their thoughts about each of the components of the Bridge21 model, before discussing them with colleagues. These documents provided an insight into teachers' first impressions of Bridge21.

Towards the end of the school year, teachers were invited to participate in individual interviews, either during or after the school day. As this paper aims to explore the experiences and outcomes of teachers who participated in the programme through their own reflective accounts, open individual, non-directed interviews were conducted. The initial purpose of these interviews was for researchers to find out about teachers' experiences of implementing the Bridge21 model in their own classrooms. Teachers were asked about their experience of the year, with the interviewer asking about implementing specific elements of the Bridge21 model as appropriate. However the interview approach allowed the researchers to remain open and responsive to points raised by participants. As a result some interviews also included discussions about opportunities and barriers they had encountered, ideas for the future and recollection of the first phase of CPD. In total only 16 teachers were available, all of whom participated during school time.

Finally, at the end of the school year, participating schools were invited to a one day event to share and discuss examples of their developing practice with the Bridge21 team and the other participating schools. Based on discussions with teachers it was clear that not all were allowed to participate in the conference by their school as it occurred during the school day and those that could were given short notice and could not necessarily attend. Informal discussions were held with teachers throughout the day, captured through unstructured notes for secondary data, with an opportunistic sample of those teachers willing to participate in a small group interview at the end of the day.

This research forms part of a larger study which has been granted ethical approval by the authors' institution and the management of each participating school. Informed consent was gained from all those who participated. Engagement with the professional development programme required the active participation of teachers and school leaders. The latter acted as gatekeepers, which meant that they determined access opportunities and restrictions to both staff and students.

Soebari and Aldridge (2015) explored the use of students' perceptions of the learning environment to understand the changes in teachers' practices during a professional development programme, as part of the evaluation of the professional development. A similar approach has been taken in this paper for the purpose of understanding the experience and outcomes from the perspective of learners, previously identified as one of the biggest motivating factors in professional development. Focus group interviews with students from one new and one returning school were conducted and questions focused on their experience and opinions of various projects through the year and used as secondary data.

### 4.3. Data analysis

In order to understand the teachers' experiences, open qualitative approaches to data analysis were used. This began with coding of observation and reflection documents from the first two phases of the professional development programme. While the headings and prompts given to teachers to structure their observations provided initial loose categories, *in vivo* codes were also generated. This provided an initial understanding of participants' ideas, beliefs and expectations about their students, teaching in their own school and barriers and benefits to adopting the Bridge21

model.

Both individual and group interviews with teachers were analysed following the constant comparative approach of the grounded theory methodology (Strauss & Corbin, 1994). This allowed the researchers to remain open to the words and experiences of the teachers, so as to accurately reflect their experiences. As Hatch (2002) notes, qualitative data analysis is a messy process. Analysis began with the first interview, with emergent codes refined over subsequent interviews. Remaining open to new codes necessitated that the first interviews were returned to for re-analysis in light of emergent codes. Tentative categories emerged through this process and were recorded in memos. While all codes and categories focussed on the teacher, they were also reorganised and considered at the level of school and student in order to develop the final themes. The categorisation of codes by professional development phase or event were also considered but found to give rise to "inefficient categories" (as described by Merriam (1998)).

The unstructured notes from the end-of-year event and interviews with students were treated as secondary data and used to support or refute initial findings.

## 5. Findings

This sections explores teacher responses to participation in the experiential professional development programme. It presents the experiences of teachers as they began to change their professional practice through the themes of role of the teacher; challenges to change and the support structures needed to help bring about change in practice.

### 5.1. Role of the teacher

The strongest theme emerging from the data analysis was a perceived change in the role of the teacher in the classroom. For some teachers this involved unlearning traditional responses to common situations. One teacher described how she began by pre-teaching content before the students began working in teams so that students would have the knowledge they would need to complete the project before students engaged in the Bridge21 activity on that content. However, over time the teacher realised that the students learned the content by engaging in the activity with their team. Thus the teacher's primary role in the classroom transitioned from content transmission into focusing on the progress of teams and supporting their development at appropriate moments. As highlighted in this quote, this still required a conscious change even by the end of the school year:

"*I have to really keep checking myself to let go and let them do it*".

Older students initially sought to maintain their perceived notions of traditional student and teacher roles in the classroom, continuing to rely on the teacher for direction and answers. Teachers reported that even some who enthusiastically engaged in the team-based projects would "*still want the notes handed to them*". Nevertheless teachers commented that the Bridge21 model supported students in a move towards self-directed and active learning, rather than relying on the teacher for didactic, passive teaching of content. As one teacher stated:

"it was very much 90% they were working, 10% me"

Teachers also referred to their changing role as "stepping back", with some feeling redundant as students became more active.

"I would have been chalk and talk you know, and now often times I say nothing in class"

However one teacher expressed a fear over other people's perceptions of them:

"it looks like I'm doing nothing."

Although some felt that when using traditional teaching approaches they had more control of the content and so could "*tick things off*", teachers recognised that the Bridge21 model allowed them to focus on the quality of learning rather than the quality of teaching.

Positive attitudes and a relaxed atmosphere in the classroom lead to self-reported improved student-teacher relations and a change to the traditional classroom dynamic. For example, some teachers who considered themselves to be less expert in the use of technology described learning from the students as projects progressed.

"The other thing I'd say which I think is really important, from my point of view, is the kids taught me a lot."

### 5.2. Challenges to change

Throughout the year, teachers' opinions of the Bridge21 model, their pedagogical beliefs and assumptions, as well as their own conceptualisation of their identity/role as a teacher were challenged and there was some initial resistance to the shift in pedagogy. This section explores some of the challenges and unexpected outcomes that were experienced by teachers throughout the year.

One of the first concerns many teachers noted, was their uncertainty about students' ability to actively engage in teamwork and self-directed tasks as well as their ability to learn without direct instruction. Teamwork was viewed as disruptive and it was felt by some teachers that without direction students would not complete tasks or meet the learning outcomes. However, through observation of their own students participating in Bridge21 activities, initial fears were allayed. As one teacher noted in their reflection after the first phase observation, extended team-working was something they as teachers were unfamiliar with: "*I had never seen students working together for a long period before. They really came together and were fully committed to their task*". The same teacher had noted in his observations of two pupils that "*in the beginning there was no organisation in the group — some pupils seemed to sit outside the group; but eventually got stuck in*", also noting, "*overall I am pleasantly surprised how they worked together*".

Although the importance of training students to work in teams had been introduced to teachers during their initial introduction to the Bridge21 approach, it was only through experience in class that teachers appreciated the importance of introducing students to teamwork before asking them to work as a team. As one teacher described it, this was an "*alien*" concept to some students. Similarly some students felt that "*some teachers just expect us to know how to work in a team*" without instruction or support. Teachers found that students needed time and training to get used to teamwork, independence and taking responsibility for their own learning. With this preparation, providing clear expectations and a deadline by which they would have to present their work, teachers noted that students became focused and actively collaborated as they worked towards a common goal. During the year teachers recognised the importance of keeping the same teams between projects and across subjects as this allowed team dynamics to develop and drive the

focus towards learning:

"One way I could tell they benefited was when we were doing the second group work project their response about the project matured, you know, it showed that they had reflected and they had learnt"

Another concern raised by teachers was their uncertainty with regard to implementing the model successfully in their own classrooms. This included concern about their own technical skills, lack of resources and whether it was possible to both implement the model and complete the course syllabus. However through implementing Bridge21 in class many of these fears were allayed, with one teacher noting that while there remained the potential for gaps in knowledge, there were wider gains to be made by adopting the approach:

"but hopefully that's compensated by new things they've learned. So like I'm willing to take a little bit of gaps in their knowledge in Spanish, you know, if I was to stand up and just drill in loads of vocabulary lists, they would know more vocabulary but, you know, they wouldn't be great learners and they wouldn't know how to do anything by themselves ever so it's worth it."

Early on in the third phase, one teacher expressed a general concern of losing control not only of behaviour in the classroom but also of the learning process: "*there's always the fear that maybe you're, what do you call it, losing control of the teacher learning process, but you're not really. You're just, I suppose, it's different.*" This loss of control was linked to an awareness of what others (teachers or inspectors) might think if they were to walk into the classroom. This is an example of how existing perceptions impact on teachers' beliefs of how a classroom should appear and resulted in anxiety about noise levels and apparent disorder in the classroom as a result of increased activity and movement by students. However other teachers felt that knowing other teachers within the school were using the same approach made the changes that were occurring in their own classrooms, in some way, more acceptable.

Lack of time was one of the biggest challenges faced by teachers during the programme but was not specific to any one issue. Some teachers found that projects took longer for students to complete than they had expected and were concerned that they as teachers were falling behind when it came to 'covering the course'. Yet the same teachers described the projects as worthwhile. For example, one teacher noted that she felt that she had lost time in covering the curriculum using this approach "*but I felt they knew it … they probably knew more about it so the net result was better*". Conversely some teachers found that they were several weeks ahead of their plans.

Teachers found that planning and preparation for Bridge21 learning activities took longer than traditional teacher-centred lessons. This appeared to be a particular issue for one teacher during the individual interviews who returned to this topic throughout. However she identified that there were opportunities to reduce the time required through collaboration with colleagues:

"As I said there's going to be so many resources required that, you know, you're going to need to be able to share them, you know."

While some teachers found support from colleagues, planning together and sharing resources, others found that by following the Bridge21 approach and handing control to their students that

"*sometimes the kids come up with the ideas*".

When asked about the possibility of implementing interdisciplinary projects, in addition to time for preparation in collaboration with others, teachers also identified that the existing timetable structure was a barrier which would be impossible to overcome without the involvement of school management.

> "Researcher: The timetable keeps coming back as an issue.
>
> Teacher: Yeah it really is an issue I suppose. Because if I decided to collaborate with an English teacher with the third year group I have, every time I have third years, that English teacher probably has sixth years, second years, so they can't actually really physically collaborate during the class time. I suppose they could collaborate outside of class time more, on projects yeah.
>
> Researcher: Or would the timetable be flexible enough to maybe try something like that?
>
> Teacher: I suppose so, it would have to be, management does the timetable so they would have to take that on. It would be great."

Yet even teachers wishing to implement single subject projects (rather than cross-curricular ones) experienced barriers when it came to timetables. Several teachers highlighted the need to double lesson length from 40 to 80 min to provide learners with sufficient time to engage with projects.

Despite various challenges encountered by teachers as they began to make changes to their practice, there was evidence across interviews that if a teacher successfully implemented a change in their classroom, identifying a positive benefit for their learners in the process, they were more likely to maintain that practice even if it went against existing beliefs such as a notional expectation of what a "*classroom is supposed to be*". As one teacher who was asked about her plans for the following school year commented:

> "… because I think when I went to school you'd sit in your rows, and even at the beginning of the year, like putting the classroom in groups like this scared me a small bit. But I think now that I've done it I'd be lot more confident to see the tables done like this, and it just allows you to, you know the way sometimes you're like 'oh God they're chatting' and its noisy and it's not what the classroom is supposed to be, but just to be able to get them to work together and talk through things."

### 5.3. Support structures

Teachers highlighted the first two phases of professional development as key to their successful implementation of the Bridge21 approach in their own classrooms, in several different ways. The structured observation allowed teachers to identify key components of the Bridge21 model in action and allay some of their initial concerns.

> "*I imagined that the team might be too young to perform this task, but not at all. Task is definitely within their ability — I underestimated them!*"

Teachers described the value of observing Bridge21 in practice at the initial workshop, and in the interviews they suggested that other colleagues new to this approach would most benefit from observing experienced Bridge21 practitioners and engaging with the model as learners themselves, as they had. As one teacher said, who was asked about the value of the initial phase of CPD in

relation to the time spent:

> "*I suppose unless you see it, it's definitely an advantage […] I sort of came out and 'ok I know where I'm going now', you know, that was the advantage of it*"

The 'Participation as Learners' workshop provided teachers with an opportunity to experience the model first-hand, collaborating with colleagues at their school. Teachers were very enthusiastic about this experience and as one teacher noted:

> "*it brought out a lot of talents in people that we didn't know existed*"

Participating as learners in the model, with teachers from their own school, appeared to provide an important source of support and encouragement to teachers in overcoming initial barriers to change, making the new approach more "acceptable".

Throughout the year, teachers were encouraged to reflect on their experiences through formal meetings with Bridge21 team members and through this identified further professional development needs. Teachers were keen that further professional development should be based in schools, primarily to allow more teachers to participate but also to gain feedback from the Bridge21 team. A key component suggested was providing new and experienced teachers with opportunities to observe and provide structured feedback to teachers already implementing the Bridge21 approach in their classrooms, thus fostering a community of practice within the school.

Teachers described different approaches to their initial implementation of the Bridge21 model in their own classrooms. Some teachers started by making big changes, fully engaging with all aspects of the model, implementing it with all year groups. However most teachers started with small changes. The first step was to rearrange the furniture in their classroom, followed by developing a short project and assigning teams.

In 10 of the 17 interviews, teachers made reference to the layout of their classroom. All had rearranged the furniture in their classrooms to facilitate teamwork with several different approaches taken. Typically, once a few teachers had tried rearranging their classrooms, others felt encouraged to do the same. In one school that had been involved in the 2011—12 pilot, teachers stated that at least half of all classrooms in the school had been rearranged to support teamwork.

Three characteristics were identified of schools which successfully supported staff to engage in ongoing development of their practice: promoting open and collaborative learning amongst staff; time made available; and consistent guidelines for teamwork. Teachers who gained a lot from collaborating with others found that the initial professional development activities provided them with a framework with which to talk about teaching. It also helped to improve the dialogue between teachers and principals.

In order for teachers to learn with and from one another, they needed opportunities to meet. While some schools provided dedicated staff meetings for the purpose of planning with colleagues, teachers also identified a need for restructuring or flexibility within the timetable to facilitate multidisciplinary projects.

While some schools engaged in formal mentoring, in others there were informal discussions in which teachers shared ideas and resources, as well as advice, particularly during initial planning of projects, before developing their ideas independently: "*I sat down with another teacher and planned how we would do that and then there was a structure there and that was easier for me to work on my own.*" However in some schools teachers felt isolated. One

described feeling that they were 'sticking their neck out' or 'imposing on others' when inviting colleagues to collaborate on multi-disciplinary projects.

## 5.4. Impact on students

In both their initial written observations made during the workshops led by experienced practitioners in phase 1 and interviews in phase 3 having implemented Bridge21 activities in their own classrooms, teachers from both new and existing Bridge21 schools highlighted increased engagement by students as a particular benefit of implementing the Bridge21 approach to teaching and learning in their classrooms. Teachers felt that the approach suited most students and that they enjoyed it more than traditional methods. They anecdotally reported that students liked project work, teamwork and the new classroom layout, with students describing them as beneficial to learning.

Given a topic, students appreciated the opportunity to direct their own learning, exploring issues that were of interest to them. They also enjoyed choosing what they would create, providing opportunities for greater creative expression. Students took pride in having created tangible learning artefacts which could be shared.

Although there was increased talk, teachers noted that students were more actively engaged, more focused and demonstrated more initiative than in a traditional lesson. Several teachers also described students who had increased in confidence and developed a more positive attitude towards learning.

## 6. Discussion and conclusion

This section discusses the findings in relation to the literature and outlines what has been learned from this study. It discusses the impact of the experiential professional development programme and some of the limitations of the study, before briefly presenting some unexpected finding which illuminate the current struggle over reform in Irish education.

## 6.1. Experiential professional development

The strongest theme emerging from the findings was a perceived change in the role of the teacher in the classroom. Wiliam (2010) argues that changing what a teacher knows or believes is insufficient unless teachers also make changes to their practice. Most teachers in Irish secondary schools adopting the Bridge21 model would need to make some changes to their professional practice and this occurred in a context in which teachers were aware of the incoming reforms which would require such a change. However the reported change was substantial and exceeded expectations, with teachers from a variety of disciplines and with a range of experience reporting that they had now moved from teacher-centred to learner-centred approaches, where they had previously insisted on silence they encouraged discussion and having only ever taught in subject silos they were beginning to explore interdisciplinary projects with colleagues.

Many of the outcomes reported by teachers can be accounted for by their use of the Bridge21 approach. Theu findings demonstrate that the initial experiential learning activities helped to address some initial concerns which would have been a barrier to uptake. Traditional approaches to professional development would not have allayed these fears. With teachers' knowledge of their own students providing a foundation for their initial assumptions, it was only by observing these same students that they considered the approach credible. Observing their own learners engaged in a Bridge21 activity demonstrated to teachers not only how the approach could be used but more importantly they were able to

observe the outcomes for their own learners, addressing a key motivator for changing practice (Guskey, 2002). While it is often taken for granted that good professional development will lead to positive student outcomes, it is difficult to track exactly how this occurs (Stoll et al., 2012). What we can be sure about is that teachers are motivated by student outcomes (Darling-Hammond, 1998) and this paper demonstrates that observing positive student outcomes at the start of CPD is a useful hook to initially engage teachers in the innovation and motivate them to use it in their own classrooms. This could be described as "starting with the end in mind" (Stoll et al., 2012). Therefore by expanding the experiential nature of learning through to the very beginning of the professional development programme, whilst time consuming, addressed teachers' personal development from the beginning increasing the likelihood that they would try the Bridge21 approach in their own classrooms.

There is clear evidence from the findings of a developing professional learning community within schools and the potential for one to develop between schools following end-of-year events. This began with the shared experience of the Bridge21 model as learners and maintained in subsequent in-school activities. This clearly supported the initial interventions and ongoing development of practice in the classroom, may never have happened had the focus been on delivering key information with an expectation that the teachers would simply replicate the practices that they had been exposed to (Datnow et al., 2002). These communities provided both emotional and practical support to teachers as they developed their practice, allaying fears and sharing ideas, necessary for effective professional development. While for some teachers simply knowing that someone else was doing the same types of things was enough, others discussed their progress, shared ideas, gave feedback and collaborated on lessons. These networks between teachers in different departments who may not usually speak to each other was a clear benefit of this phase, in addition to providing then with an opportunity to experience the models as learners for themselves, addressing both intellectual and personal professional development.

Stoll et al. (2006) suggest that external support for schools is essential to support change. While this is provided in the approach to professional development presented in this article and supported by our own findings, teachers within the study also suggested the development of capacity through experienced Bridge21 teachers within their own school leading professional development activities. Not only does the model of experiential professional development presented here provide an easy to follow approach but the two initial experiences can be tailored to self-identified needs such as the development of digital skills. By experienced teachers taking the lead, rather than member of the Bridge21 team, capacity for professional development can grow and at the same time it ensures that the model can work without the researcher.

The evidence points to increasing adoption of the Bridge21 approach through the year as teachers became comfortable with the approach and adapted it to suit their needs. As teachers' sense of self-efficacy in the use of the Bridge21 approach increased, so did their use of the approach, with several teachers stating that while they had been introduced to the approach for use with 1st year students, they had used it successfully with various age groups within the school. These results correspond to earlier quantitative research by Stein and Wang (1988) who identified several factors on how and why innovative programmes such as Bridge21 are adopted and maintained by teachers. The only notable difference is that while they found little or no change in teacher-perceived value of the innovation over time, the study reported in this article includes teachers who initially had no interest in Bridge21 and who, through their own experience, positively valued the innovation.

By providing teachers with an opportunity to make small changes over time, there was a gradual change in practice supported by an ongoing sense of achievement. Where these changes were supported by colleagues and senior management the changes occurred more quickly. This supports Fullan's (2001) seminal work on change as a process rather than an event and as such there needs to be long-term engagement through ongoing professional development in order to sustain progress, through challenges and setbacks. As Wiliam (2010) notes, this may take a lifetime and cannot be achieved through once-off events or a finite number of hours of professional development. As such the experiential approach presented here provides a scaffolded approach for teachers to begin their engagement with ongoing support through a professional learning community.

Overall the evidence clearly demonstrates the effect of underpinning initial professional development activities with experiential learning. The use of reflection on experience is a key feature of the Bridge21 model but this approach to professional development could be used effectively with other pedagogic aims.

### 6.2. Limitations

There was no systematic collection of teachers' existing beliefs prior to their introduction to the Bridge21 model. Therefore it is difficult to say with any certainty that there has been a significant change in teacher beliefs. However, although reliant of self-reported data, there is evidence that teachers have changed their professional practices and can see the benefits for their learners. Limited to only one year, longitudinal data will be required to see if this is a lasting change for individual teachers, schools and whether it can be successfully rolled-out nationally, or simply becomes part of the rhetoric in education as has so often occurred internationally. It is also worth noting that teachers were to a large extent self-selecting and participated with their schools' consent and thus came from an institutional environment supportive of change. Finally, while there was an apparent drop-off of participant based on the numbers who participated in data collection, which could signal disengagement and failure of the programme, all teachers continued to engage throughout the year with the Bridge21 team but with many teachers only available to meet during school time, pressures of the timetable and the availability of researchers meant that it was not always possible to arrange interviews.

### 6.3. Responses to reform

At a time of radical educational reform, stakeholders can present either seemingly insurmountable barriers to change or be the greatest advocates as agents for that change. Both teachers and students are key stakeholders and their relationship is an important one at a time of transition. With older students seeking to maintain the traditional dynamic of the teacher as imparter of knowledge and student as receiver, it is clear that it is not just the teacher who must change their practice and expectations. Those students who participated in the initial workshop supported the change in dynamic characterised by students directing their own learning with teacher support, with other students following suit over time. Therefore it is worth considering how students are introduced to the Bridge21 model for the first time by their teachers. While many students reported enjoying learning in this way, teachers themselves noted that it took time for some students to learn new ways of learning. This has implications beyond these individuals or this model of learning. In the current Irish reform process, the successful transition of students to new ways of teaching, learning and assessment may be as important as the development of teachers.

If teachers themselves are not convinced of the need for reform they will avoid the changes or implement them in such a way so as to meet their own beliefs about how teaching and learning should occur (Avalos, 2006). To alter personal beliefs is challenging and results in an emotional response (Bell & Gilbert, 1994; Day & Sachs, 2004; Stoll et al., 2012). Once the need for reform has been accepted, beliefs have changed and new professional practices developed, an ultimataely positive narrative emerges with reference to the reforms. This is exemplified by one experienced teacher who did not initially seek to participate in the programme:

"Teaching very much as a dictator for 32 years, not that I ever was really a dictator to be honest, but I would have been chalk and talk, you know … Well I've said it to quite a number of teachers on the staff … But anyway, but my big thing is, and I've said it maybe a dozen times in the last month, in my 32 years teaching, this is the one I've enjoyed the most."

The model of experiential professional development presented in this paper provides an approach for policy makers to demonstrate the potential outcomes of reforms from the beginning, evoking the emotional responses which support change and empower teachers to be agents of change, resulting in radical changes to teachers' professional practices.

### Acknowledgements

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