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## Promethean Thinking Deeper Research Paper No. 8

## Planning a Teacher Professional Development Journey

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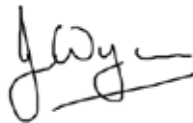## Contents

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## Foreword

This paper follows discussions with Jim Wynn over a period of many years. We have crossed paths since the late 1990s and have both been deeply interested in the need to help teachers with their professional development, especially where information and communication technologies are involved. In the summer of 2013, Jim shared with me some thinking that linked the reality of teachers' behaviours when they are teaching with the work of Dreyfus and others, and this discussion paper was born out of that exchange.

We both hope it stimulates some thinking and, maybe, will help teachers on their own professional development journeys towards more effective teaching and improved learner achievement.

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## Context and background

As a government, regional or local authority, as an adviser or teacher, do you have an interest in educational effectiveness, efficiency, enhancement, or improvement? If so, where do you think the focus of that interest should be (on a school as a whole, on the curriculum or its assessment, on leaders, on teachers, on students directly, or on their parents)?

There has been quite a lot of research that has focused on areas of change and improvement, on:

- Schools (for example, Fullan, 2007).

- Curriculum (including the seminal work by Mackenzie and Lawler, 1948).

- Assessment (including the leading work summarised by Wiliam, 2010).

- Leaders (more recently by Muijs, 2010).

- Parents (for example, Desforges and Abouchaar, 2003).

But has there been the same extent of focus and depth of research on the role of teachers and what this means for their professional practice across their career in education, when effectiveness and improvement are considered? And if so, has it been more of a transposition of the change and improvement literature onto existing teacher practice, rather than focusing on fundamental features such as developing enhanced pedagogical practices? Indeed, is there a difference that can be seen or recognised between existing teacher practice and long-term professional development?

Key researchers have beyond doubt identified the crucially important roles of teachers:

Rice (2003) stated that: "Teacher quality matters. In fact, it is the most important school-related factor influencing student achievement."

Timperley (2008) said that: "Notwithstanding the influence of factors such as socio-economic status, home, and community, student learning is strongly influenced by what and how teachers teach." "Professional learning is strongly shaped by the context in which the teacher practises. This is usually the classroom, which, in turn, is strongly influenced by the wider school culture and the community and society in which the school is situated. Teachers' daily experiences in their practice context shape their understandings, and their understandings shape their experiences."

Miller, Murnane and Willett (2007) offered an idea of the difference that teacher practice can make, stating that: "We estimate that each 10 days of teacher absences reduce students' mathematics achievement by 3.3 percent of a standard deviation." Accepting that this measure indicates a shift something in the order of one place out of 100, this means 50 days of teacher absence means a learner being in position in 45th place rather than 50th place, or, ineffectiveness over a 2-year period making a difference for a learner from average to top position, for example.

So, how do teachers change and develop in terms of their professional practice over time? Is their professional practice discernibly different over a 10 or 20 year period? And if teachers have not changed in their professional classroom practice over time, then why is this the case? Do they:

- Lack support?

- Or ideas?

- Or a framework?

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We know that teachers tend to orientate their practices around particular pedagogies:

> Shulman (2005) defined these 'signature pedagogies' as "the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions" (p. 52). Teachers as subject-focused professionals tend to do the same; biology teachers focus on dissection approaches; mathematics teachers focus on banks of related practice questions; law teachers focus on uses of moots.

But we know that change can happen for teachers:

> Cordingley, Bell, Evans and Firth (2005) reported that: "teachers changed or substantially developed aspects of their teaching following the [collaborative] [continuing professional development] CPD intervention, and showed ongoing collaborative work. Teachers' motivations, confidence, attitudes and beliefs were enhanced."

Support is often in place for teachers, but is that support intentionally meant to influence the long term or to be strategically focused? A review of research literature about teacher support practices would suggest not – continuing professional development programmes are mainly concerned with content and subject. Ideas for change, such as introducing collaborative activity, are often there; but are these sustained and do they have impact on the professional practice of the teacher ten years beyond a support session? There is little evidence of this – outcomes are usually measured over no more than a one-year period. Monitoring sustained professional development change is not commonly undertaken.

Shulman's concept of 'signature pedagogies' (2005) is important when development and change are considered. Teachers may feel that new methods and approaches can 'harm' old approaches. For example, it was felt for some time that the use of word processors might 'harm' handwriting abilities. Crook, Harrison, Farrington-Flint, Tomás and Underwood (2010), across 85 lessons observed, identified forms of interaction occurring: exposition occurred in 50-60% of lessons; construction occurred in 30-40% of lessons; rehearsal and search occurred in 20-30% of lessons; performative work occurred in 10-20% of lessons; scripted inquiry, simulation, collaboration, participation, assessment, reflection, ludic, and representation occurred in 0-10% of lessons; and case-based, cross-contextual, networked, tutorial and annotation work were not found in any lessons. Are the pedagogic practices that are at low levels known to be 'harmful' to learners? This is doubtful; indeed, the authors were suggesting that they would expect a balance across those different forms of pedagogies. As Passey (2012) said when reviewing the ways new technological resources can be used in mathematics teaching: "There is a potential mismatch; if educational technologies are to be of benefit, then there is a need for current and future development of appropriate signature pedagogy practices."

Change for teachers in this context needs to be concerned clearly with understanding that an acquisition of practice is concerned with student benefit – with widening and deepening opportunity and potential. Research supports the ideas that there are benefits arising from varieties of practice, involving collaborative and team work, for example, as well as individual and independent work practices.

So, if a framework for long-term professional development of this balance of practices is almost certainly not in place, what sort of framework is needed? How can a teacher professional development journey be planned and enacted, that goes beyond a promotion framework?

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## Thinking about a teacher professional development framework

Seven key questions need to be asked at the outset:

- What is a teacher professional development journey (rather than a promotional journey)?

- What are the stages of such a journey (when and how they arise)?

- Why embark on it (for the benefit of learners and to support learning)?

- When to embark on it (after completing initial teacher training)?

- How to embark on it (where to start)?

- How to gain from it (so that it is more continuous rather than sporadic)?

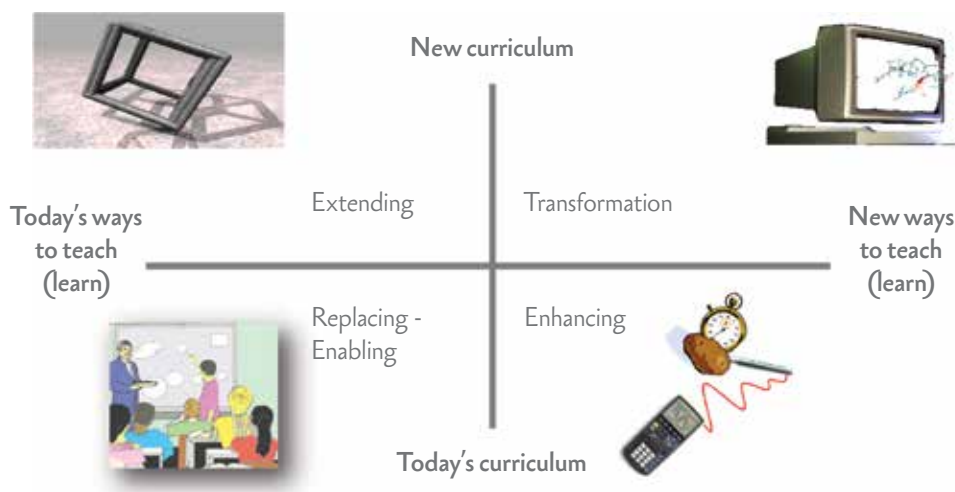- How to measure progress through it (through self- and externally- supported monitoring)?

**What is a teacher professional development journey?**

A teacher professional development journey should be characterised by a teacher:

- Recognising that practice is acquired cumulatively, and that some pedagogical processes are harder to adopt and use than others.

- Being more productive in the long term, considered over a period of at least 5 years.

- Being more efficient, for oneself as well as for others, again over the long term.

- Gaining new approaches, successively, building forward on existing and new practices.

- Supporting learning and learners better, and finding out how this is being done through feedback such as research reviews.

- Considering social and global contexts more, and what this means for one's own teaching, as well as that across a school, a region or nationally.

These characteristics are summarised in Figure 1, asking what a teacher would want to do, what features to explore next, and how to move to transformation and enhancement. But, this is a two-dimensional figure, without showing a time dimension – that is what the 'journey' should do. Figure 1: Thinking about professional teaching practices and their development (Source: Wynn, 2013)



What do you want to do?

New curriculum

Today's ways to teach (learn) — Extending | Transformation — New ways to teach (learn)

Replacing - Enabling | Enhancing

Today's curriculum

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## Conceptualising teacher professional development

A teacher professional development journey can be considered through the key ideas of Dreyfus (2004). Based on a professional development model in the medical world, Dreyfus considers five stages of development. These are described as follows (rewritten from a teacher professional perspective).

### Novice

Novice teachers are instructed in ways allowing the teaching environment to be decomposed into elements of 'context-free features' that the new teacher can easily recognise. Dreyfus calls these elements 'non-situational'. The novice is given ideas or 'rules' to create teaching activities on the basis of these elements. To improve, the novice teacher is monitored, involving sometimes self-reflection or sometimes 'instructional feedback', to move teaching approaches more towards 'conformity with the rule'. The novice teacher knows how to create a class activity and how to move the activity forward in response to cues concerned with activity time or subject matter covered.

### Competence

Competence comes after the teacher has had 'considerable experience' in coping with real classroom situations where the teacher can recognise 'recurrent meaningful component patterns'. These components mean the teacher understands the teaching environment is not context-free. Dreyfus calls these recurrent patterns 'aspects'. The competent teacher recognises aspects such as "students don't seem to understand this", "student behaviour appears to be dramatically deteriorating," and "my approach doesn't seem to be engaging these students," and knows how to amend the conditions.

### Proficiency

Increased practice exposes the teacher to a wider variety of typical situations. The teacher is able to take cues from different elements of the classroom, using different student cues, which enable the teacher to understand the entire situation, and to adapt teaching practices to student requests, curriculum demands, school needs, the requirements of parents, and to accommodate the needs of other colleagues.

### Expertise

The expert teacher in a school environment has reached a last stage in the steps of improving 'mental processing'. Up to this stage, the teacher needed analytical principles (rules, guidelines, or maxims) to connect a general situation to a specific action. Now the range of teaching experiences means any specific situation can intuitively be acted on in terms of appropriate teaching activity. The teacher at this stage is not aware of their direct actions; they intuitively respond. 'The magnitude and importance of this change from analytic thought to intuitive response' means a teacher can suddenly reflect on their performance and it can have negative impact on performance; they move from 'automatically teaching' to realising they are 'responsible for the outcomes for the learners in their care'.

### Mastery

According to Dreyfus, although expertise is at the highest professional level, an expert is still capable of intense concentration and absorption in teaching, with performance going above its usual high level. This 'masterful performance only takes place when the expert, who no longer needs principles, can cease to pay conscious attention to his performance and can let all the mental energy previously used in monitoring his performance go into producing almost instantaneously the appropriate perspective and its associated action'.

Although a very useful conceptualisation of teacher professional development, nevertheless this framework does not accommodate particularly the important elements of practice that are related to working with other teachers, within a school, and with an outside community.

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## Conceptualising a teacher professional development journey

A teacher professional development journey needs to consider how an individual teacher works with others – learners in classrooms, other teachers in classrooms, other teachers and staff in the school, with parents, and with outside agencies.

In terms of working with learners in classrooms, Tolley, Day, Sammons, Kingston, Regan and Gunraj (2008), from a literature review for a major United Kingdom research council project focusing on effective classrooms, highlighted a number of key factors associated with effective teaching: scaffolding learning; effective classroom discourse; effective group work; and assessment and effective teaching. Florida's Positive Behavior Support Project (2002) identified a similar range of important features: providing advance organisers and pre-corrections for individual learners; keeping learners engaged; providing a positive focus; consistently enforcing school and class rules; correcting rule violations and social behaviour errors proactively; and teaching and planning for smooth transitions.

At a school effectiveness and improvement level, Hopkins, Ainscow and West (1994) developed criteria to assess the stage a school had reached during a successful change process. This also provides a framework to consider in this respect:

- Initiation – focused on a local agenda and need; clear and well-structured approach; active advocacy, understanding and supporting the local need; active involvement; identifying good quality features in the local need.

- Implementation – taking responsibility for action and coordination; sharing control with wider need; establishing cross-school work and relationships; empowering other individuals; focusing on identifying quality; using professional development to build long-term capacity; rewarding others less established in practice.

- Institutionalisation – embedding development and qualities of practice; identifying practice within a wide school context; focusing on alternatives and considering other approaches; building alternative approaches into curriculum and local classroom needs; discussing practice with others within and outside the school; discussing practice with a wider non-professional audience.

So how can these key features be built into a long-term teacher professional development journey that integrates with the stages Dreyfus offers?

**What are the stages of such a journey?**

On the basis of this background of potentially inter-relatable frameworks, it is possible to identify three teacher professional development journey stages. It is important to recognise that there are three different modes (approaches) built into these stages, and the stages accumulate these modes rather than replacing them. It should also be noted that the first stage is easiest to deliver and orchestrate, while the later stages have increasing complexity both in terms of delivery and orchestration. The stages are:

1. Focusing on a Knowledge Transfer Mode (KT).

2. Using a Knowledge Transfer Mode (KT) and a Knowledge Sharing Mode (KS).

3. Integrating a Knowledge Transfer Mode (KT), a Knowledge Sharing Mode (KS) and a Knowledge Community Mode (KC).

In terms of classroom practice, these stages can be developed as shown in Figure 2. In this figure, the images indicate ways knowledge is handled, and how stakeholders are involved, but they are all different. The teacher is the enabling factor allowing each of these approaches to be used, administered and delivered as and when appropriate, and orchestrated so that wider and deeper learning opportunities result. This orchestration will clearly depend on a number of factors – such as different subjects with their different signatures, different learners, and different environments (cultural and physical).
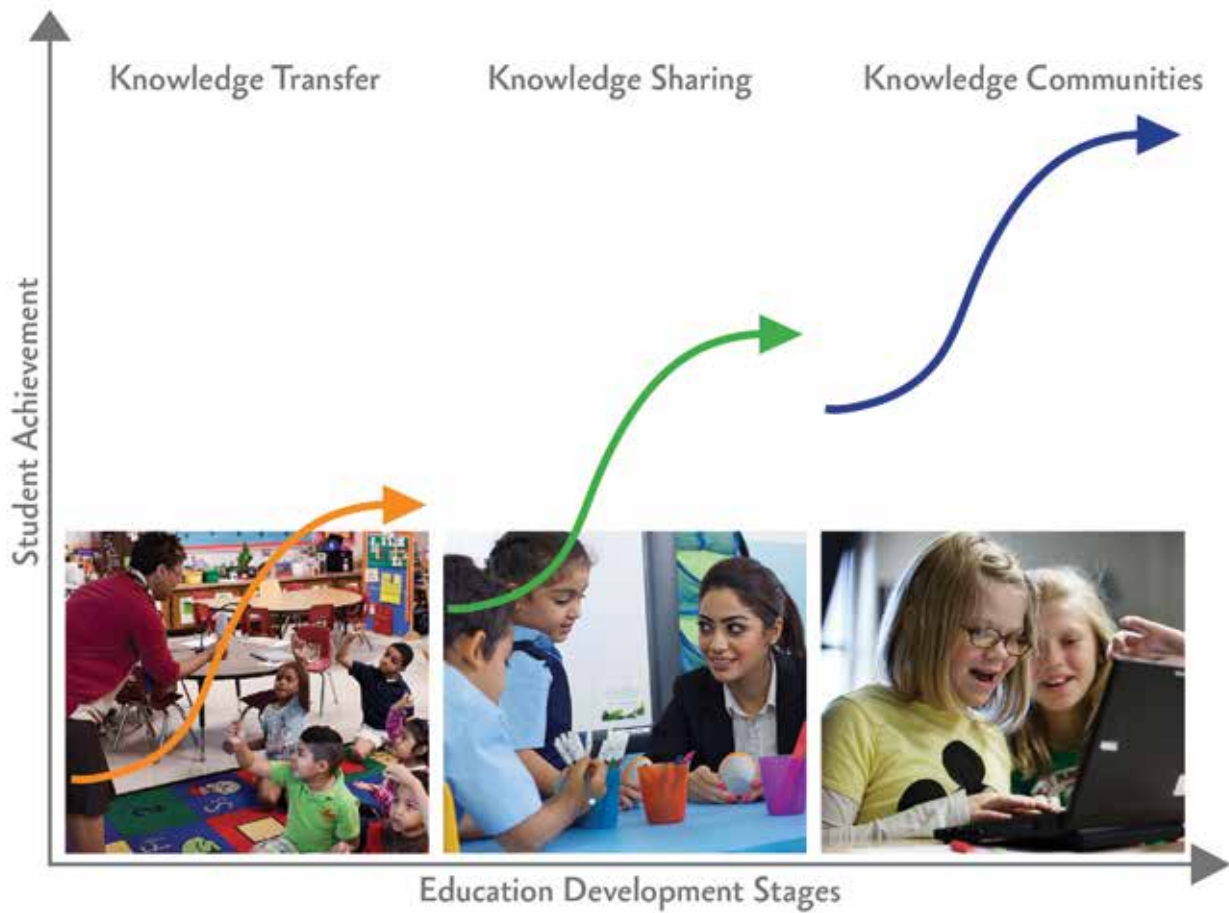
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Figure 2: Stages of a teacher professional development journey seen through the perspective of classroom approaches (Source: Promethean Education Strategy Group, 2013)

Key features of each of the three modes involved are identified in Figures 3 to 5.

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Figure 3: Features of a Knowledge Transfer mode (Source: Promethean Education Strategy Group, 2013)

In a KT mode, the teacher:

- Primarily focuses on what they are doing.
- Sets very clear learning parameters.
- Uses simple forms of formative assessment.
- Considers learning as being something that learners have received and gained.
- Wants to keep attention and learner focus by maintaining quite strict control.
- Considers visibility as being a vitally important factor.
- Wants learners to get things 'right'.

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Figure 4:  Features of a Knowledge Sharing mode (Source: Promethean Education Strategy Group, 2013)

In a KS mode, the teacher:

- Is more concerned with differentiation, perhaps within learner groups.
- Still defines end points of learning.
- Manages learners in groups so they can share in learning activities.
- Gives more responsibility to learners to organise the management of their learning pace and processes.
- Explores ways to facilitate group work.
- Uses more sophisticated forms of formative assessment.

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Figure 5:  Features of a Knowledge Communities mode (Source: Promethean Education Strategy Group, 2013)

In a KT stage, the teacher:

- Learns about the individual learners, their interests and needs.
- Empowers learners to look beyond the classroom and to be involved in informal and non-formal learning.
- Gives learners responsibility to develop their own interests and outcomes.
- Considers how to arrange learning spaces rather than using a classroom.
- Deepens uses of powerful formative assessment techniques.

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This teacher professional development journey should focus on and enable deeper, wider and higher level outcomes of learning. For example, in moving from less to more sophisticated forms of formative assessment, the difference in terms of impact measured by effect size, according to Wiliam (2010, p.144) based on Nyquist (2003) is:

- Weaker feedback only has an effect size of 0.14.

- Weaker formative assessment has an effect size of 0.26.

- Feedback only has an effect size of 0.36.

- Moderate formative assessment has an effect size of 0.39.

- Strong formative assessment has an effect size of 0.56.

Most researchers (as indicated in Cohen, Manion and Morrison, 2007, for example) would say that an effect size of 0.4 is the minimum that is acceptable for an intervention to have significance. In this case, strong formative assessment is the only one at a level where significant benefit would be identified.

Hattie (2008) identifies from meta-analyses the sorts of features that he says supports benefits for learners (although how these are applied are clearly in themselves important). He identifies key factors such as cohesiveness in the classroom, enabling a positive climate and relationships between the teacher and learners, being clear with instructions and detail, providing clear goals, mapping out concepts, developing mastery in learning, giving effective feedback, offering worked examples, using questioning, spacing practice, supporting peer tutoring, developing useful study skills, focusing on metacognition, supporting self-verbalisation and questioning, giving direct instructions, supporting problem-solving, and using interactive technologies. This range of features is clearly not found within the practices used by a teacher using a KT mode alone.

Using KS and KC modes as well, the teacher is moving in terms of using additional forms of activities, where learners are working not just on 'correct' answers but also in activities concerned with real-life issues and problems. This wider range of activities increases the number of elements of learning involved, as shown in Table 1 in cases of activities using different forms of digital technologies (Source: Passey, 2013).

Table 1: Numbers of elements of learning contributed to in each forms of learning activity using forms of digital technology (ordered from highest to lowest number of elements)

| Digital technology category | Numbers of elements of learning contributed to |
| --- | --- |
| Project and after-school club activities involving digital technologies | 79 |
| Online resources supporting curriculum-wide needs | 79 |
| Curriculum-wide teacher-centred software | 71 |
| Software involving and supporting parents | 64 |
| Topic-specific resources and software | 64 |
| Online learner support | 59 |
| Online resources supporting revision needs | 43 |
| Curriculum-wide learner-centred software | 42 |

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### Why embark on it?

A professional development journey is not the same as receiving a professional course focused on subject or content. Governments are concerned that they have a workforce that is well-equipped; so they recognise that professional development needs to be effective, in the longer- as well as in the shorter-term. Effectiveness in the longer-term is concerned much more with the professional development of pedagogy and change, understanding the processes of pedagogical development, how to take new approaches on board, and how to self-monitor these. Lester's (2005) interpretation of the Dreyfus model points to certain reasons for considering a teacher professional development journey over a period of time:

- Advancing professionalism requires an understanding of 'context' – what it is, and what it can do.

- Moving to a 'competent' stage involves understanding 'relevance'.

- Moving to a 'proficient' stage requires knowledge of how to move from analytic to holistic approaches.

- Moving to an 'expert' stage should be accompanied with an understanding of 'intuitive' decision-making, and its implications.

### When to embark on it?

A spokesperson from the OECD (2013) estimates that 75% of the time teachers are in a KT mode, while they are working at levels much lower in the other modes, perhaps 20% for KS and 5% for KC. Similarly, Wynn (2013), seeking opinions from at least five different global audiences always elicited the same answer; that the concerns voiced about change is the other way round, that is, 90% of concern and discussion is about developing and using a KC mode. Current discussions are around ways to work more effectively to support learning using a KC mode (as shown and justified above). But if this is the case, then how does this help the teacher who is working in a KT mode? There are clearly issues in terms of how teachers are focusing their professional actions.

Embarking on an on-going journey could shift this picture. In terms of Mishra and Koehler's framework (2006), there is need for a professional development journey to focus in on-going ways on not just content, or the pedagogy, or the resources such as technology, but also the overlaps that define four further kinds of interrelated knowledge.

Figure 6: Forms of teacher knowledge (Source: Mishra and Koehler, 2006, p.1025)
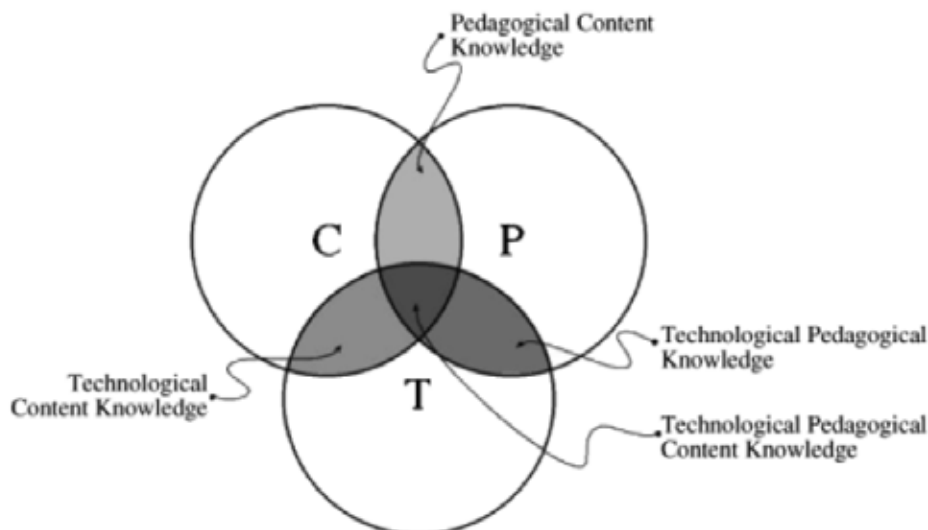
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**How to embark on it, and gain from it?**

Deciding on whether to start at a KT, KT and KS, or KT and KS and KC stage is clearly a necessary starting point.

A teacher new to the profession will almost certainly find the KT mode easiest, as it focuses on control and planning. But after 2 years of teaching, maybe the KS mode is worth considering, and after 5 years, perhaps the KC mode. The time to start is not necessarily, of course, determined by only length of experience. Teachers do develop more techniques over time, but the mix of the modes of use to suit learning objectives and the needs of learners is an important factor that is not fully researched at this time.

Each of the three modes described above is linked to uses of resources, including uses of digital technology. It is known that effectiveness can be enhanced with uses of digital technologies; for example, digital technologies enable formative assessment feedback to be accessed and used in different ways. Learning processes involved when a learner undertakes an activity using digital technologies might be identified more readily, so the focus can move from being on content to being on learning processes. Overall, however, the benefits of each mode need to be recognised by the teacher.

**The benefits of a KT mode for the teacher are:**

- The classroom is teacher-centred, involving largely whole-class instruction.

- Learners can gain from direct instruction, with minimal interaction.

- Content can be delivered through a textbook or worksheets.

- Learners can gain access to digital content that engages them through different sensory routes.

- Lessons can easily be shared and teachers can collaborate, which can save time and improve productivity.

- Whole-class assessment is simple, and can reduce teacher workload and produce real-time data.

- Learner feedback and dynamic whole-class discussions are possible.

- It is possible to fairly easily plan and alter lessons according to levels of learner understanding, gathered from relevant data.

- Learners can be involved so that they can all have a voice.

- It provides a basis to move to a KS mode.

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**The benefits of a KS mode for the teacher are:**

• The classroom is based on collaborative practices, with dynamic group instruction.

• The teacher instructs from the front of the class.

• Learner data drives the instruction.

• Learners are involved in interactive activities and engaged with peers in ability groups.

• Content can be edited and shared.

• There is more time for group activities.

• Activities for learners are modelled by the teacher, as well as outcomes being reflected on and shared by learners.

• Learners present and share their learning to the class for discussion and analysis.

• Self-paced assessments allow learners to take more responsibility for their learning pace, providing teachers with opportunities to support individualised learning in real time.

• Digital technologies such as tablets allow teachers to assign digital content to groups of learners.

• Critical thinking and reflective learning is encouraged, so learners share learning within a small group and the class.

• Group activities are highly structured and easy to implement, so there is genuine collaboration amongst learners.

• Formative assessment data is collected from within activities, including monitoring individual learner participation.

• Direct instruction is efficient and selective, allowing more time for group activities.

**The benefits of a KC mode for the teacher are:**

• The classroom is learner-centred, and concerned with personalised learning.

• There is 'point of need' instruction for individuals or small groups.

• Learners are involved in 'mastery learning', but still working at an individual pace perhaps in a multi-aged environment.

• There is opportunity to connect with real-world experts and outside resources.

• Content is dynamic, using real-world resources that are project-based or challenge-based.

• Digital and visual communication is used for sharing and collaboration with experts and peers around the world.

• Formative assessment provides real-time assessment of learning to support personalised and 'point of need' instruction.

• Learner data are aggregated and disaggregated to support both longitudinal and item analysis, monitoring learning productivity in real time that are web-based.

• Individual voice is encouraged, providing opportunity for each learner to contribute despite larger class-sizes.

• Small group collaboration is encouraged through accessible resources and digital technologies.

• Decision-making skills are integrated into activities.

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**How to measure progress through the journey?**

Wynn suggests assessment of technological pedagogical content knowledge (TPCK) should consider a key question: How can technical skills and knowledge be applied in learning? Four more specific areas to consider are whether a teacher can, in:

- Planning:

    o Incorporate digital technologies appropriately and effectively in the setting of objectives for subject teaching.

    o Exploit digital technologies appropriately and effectively in establishing expectations of what all learners can achieve.

    o Select and create digital technology resources and identify effective forms of classroom organisation.

- Teaching:

    o Take full advantage of digital technologies to extend a range of teaching strategies and to enrich the classroom environment.

    o Use digital technologies appropriately and effectively to ensure learner engagement and sufficient pace and depth of learning.

    o Stimulate appropriately and effectively learners' personal and co-operative use of digital technologies.

- Assessing and evaluating:

    o Recognise, acknowledge, monitor and record attainment in all the teaching and learning contexts in which digital technologies are used.

    o Take full advantage of digital technologies in developing appropriate and effective strategies for assessment by the teacher and by learners.

    o Evaluate the appropriateness and effectiveness of digital technologies against teaching objectives.

- Personal and professional development:

    o Use digital technologies appropriately and effectively to extend subject and curriculum-related professional knowledge (including communications with others).

    o Demonstrate an appropriate level of digital skills to maximise professional administration.

    o Effectively use digital technologies to search both research and inspection evidence to improve professional practice.

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## What next?

The concepts and constructs laid down in this document are being explored in some local situations, although these have not necessarily been researched in terms of how this is being done or what outcomes are arising. However, where practices have been explored, there is not always a clear distinction between pedagogical development and career development. In England, for example, the government Department for Education (2013) encourages schools to consider excellence in teaching, stating that:

> "It is only possible to become a leading practitioner if a school decides to create a post or posts that have the primary purpose of modelling and leading improvement of teaching skills."

Some nations and states have explored and identified elements of a pedagogical pathway. In the United States, for example, the State Board of Education and Ohio Department of Education have published standards that enable teachers to consider their practice at 'proficient', 'accomplished' and 'distinguished' levels. At a 'distinguished' level:

> "…teachers and principals use their strong foundation of knowledge, skills and abilities to innovate and enhance their classrooms, buildings and districts. They are leaders who empower and influence others. They anticipate and monitor situations in their classrooms and schools and effectively reshape their environments accordingly. They respond to the needs of their colleagues and students immediately and effectively." (p.8)

How can these forms of concerns that nations share be detailed so that schools and teachers can take on board the ideas and appropriate practices to make these a reality? If teachers are to adopt a concept of a professional development journey that is pedagogically based rather than being based on ideas of career promotion, then some initial thoughts at this point might be:

1. How can we build an atmosphere where the professional development journey is understood, like Dreyfus suggests?

2. How can we adopt the journey so that there is support throughout the journey rather than punishment being applied at the end of the journey for not achieving?

3. How can we give advice about 'signature pedagogies' and how the trial and adoption of different pedagogies can match the journey to key learning objectives?

4. Can we build a common framework which can be applied across subject domains so that a common language can be developed for a professional development journey?

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## The Author

**Don Passey** is Professor of Technology Enhanced Learning, Co-Director of the Centre for Technology Enhanced Learning, and Director of Studies for the Doctoral Programme in E-Research and Technology Enhanced Learning in the Department of Educational Research at Lancaster University. His research has focused on learning, and how digital technologies enhance learning opportunities. He has wide experience in developing and using evaluation and research methods to study technological innovation, exploring uses and impacts of leading-edge technologies in teaching and learning settings for more than 20 years.

Don has worked with many different stakeholders when conducting research; he has worked with government departments and agencies (including the former UK government agency for e-strategy for schools and colleges), commercial companies (including Microsoft, Espresso Education, RM, and phase6), non-commercial groups (including the BBC and ERA), as well as individual educational institutions and schools. His research has informed both policy and practice; he has been a consultant to the government department in England on a number of projects, working on development of innovative approaches to data management systems; he has worked with commercial companies in the UK, Switzerland and Germany, with state pedagogical research institutions in France and Germany, with educational groups in Hong Kong, Bermuda, and Peru, with local authorities and regional broadband consortia across England and Scotland, and with many individual schools. Some years ago he established, in collaboration with the Specialist Schools and Academies Trust, a Masters in Research (MRes) course in Innovation in School Practice for teacher practitioners, focusing on researching uses of data and technologies within schools and in homes. He now directs and teaches on an online doctoral programme and regularly examines PhD students internally and externally to Lancaster University.

He is a member and vice-chair of the International Federation for Information Processing (IFIP) Working Group on Information Technology in Educational Management and a member of a former international Working Group on Elementary Education and ICT. He was a member of the former British Computer Society Schools Expert Panel. He has written widely on aspects of leading edge ICT uses in primary and secondary education, and is on the editorial board of the IFIP journal.

His publications include commissioned reports for policy and practitioner groups, as well as scientific articles and books. A full list of his publications is accessible at: http://www.research.lancs.ac.uk/portal/en/people/don-passey(4b39f726-fe92-4737-9b17-7687e6f739b9)/publications.html

His most recent book focuses on ways digital technologies support the needs of individual learners:

- Passey, D. (2013). Inclusive technology enhanced learning: Overcoming Cognitive, Physical, Emotional and Geographic Challenges. Routledge: New York, NY

His most recent policy-based research has studied the need for teachers to have a wider understanding about copyright and access to free broadcast resources, which can be used for educational purposes in their home as well as at school:

- Passey, D. (2013). Educational Recording Agency (ERA): Facilitating online broadcast resource access through the ERA licence – Final Report. Lancaster University: Lancaster

Research Centre details can be accessed at: http://www.lancaster.ac.uk/fass/centres/tel/
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