i^nPD: An emerging theoretical framework for educational professional development in the information age

Simon Hughes
Canterbury Christ Church University, UK
sah14@canterbury.ac.uk

Abstract: This paper seeks to enunciate a theoretical framework for CPD. It deliberately avoids the metaphorical application of the prefix 'e' to symbolise a more holistic approach to professional development than is currently afforded by assumptions in e-learning. Drawing on the Apple Macintosh™ metaphor of 'i' approaches to life (iTunes, iMovie, iPod etc) it plays with the more personal contiguities of 'i-ness'. It extrapolates from the post-modern concept of the 'self', which can be seen to be central to all personal development activities and then explores what i^n might mean where some of the factors identified here, interactive, intelligent, international and integrated are taken to be critical in effective professional development. The article proposes that ICT enables access and engagement with these 4 factors. For each factor a case study is offered that shows how ICT has facilitated an individual educationists' personal or professional learning journey. Colleagues are challenged to propose other 'i's for i^nPD.

Keywords: interactive, intelligent, international, integrated,

Introduction

CPD activity was once described as enabling "people to become professionals". This paper seeks to articulate the professional learning journey of five educationists, whose stories were written, and continue to be written, in silicone, whose professional lives are affected by Information and Communication Technologies (ICT) and whose work affects the deployment of ICT in their educational setting. At the heart of the study is the question of how ICT impacts professional development whilst, at the same time facilitating it. So the paper postulates a new theoretical framework for evaluating professional development activity and the ways in which this is facilitated and shaped by technology. The shorthand 'hook' for this new framework is i^nPD. This descriptor is explored through case studies of four students studying at UK HE Level 4 and an auto/biographical reflection by the author who continues to search for possible answers to the question: "How did I get from being an RE teacher to my present role?" [1]. It was as part of that self-critical reflective process that the concept of i^nPD began to emerge.

1. The Concept of i^nPD

i^npd is a theoretical construct. It has emerged from the synthesis of a number of disparate sources but appears timely given the move in the UK to associate teachers' further professional development with Masters Level study. Whether the emphasis is on Continuing Professional Development (CPD) or Postgraduate Professional Development

(PPD), the key is the PD of a practitioner in education. This explains the use of PD in i^{n}pd. What follows is an explanation of other confluent sources for that construct which are laid out for critical evaluation.

1.1 The influence of the Apple Macintosh™ iLife Suite of Programs Format and Layout

It is contended that one of the most easily recognizable artefacts of the new century is the iPod. It is even postulated that young people, unable to afford an iPod itself, will buy a set of the iconic white headphones and plug them into cheaper pocket-sized MP3 players so that they may look as if they are carrying this latest 'must have' fashion accessory. Behind the customizable hardware, however, is an innovative piece of software that delivers music direct from the internet to the device. Critical to the success of the marketing of this product has been the adoption of the lower case 'i'. It hints at personalization, at self but also at interactivity. So the iPod together and alone, solo and ensemble. The Apple brand, already very strong with its own instantly recognizable logo, has been galvanized hugely by its release of the iPod and its carefully crafted software partners – all with the prefix 'i'.

iTunes has radicalized and effected the music industry in ways that were not even imaginable 10 years ago. There are some key moments in very recent history which point to this technology overturning long-established recording industry custom and practice. Gnarls Barkley topped the charts in April 2006 with a track 'Crazy' that was only available as a download (See http://news.bbc.co.uk/1/hi/entertainment/4870150.stm). The Arctic Monkeys also reached the top of the album charts with 'Whatever People Say I Am, That's What I'm Not', having established a fan base entirely on the Internet (See http://news.bbc.co.uk/1/hi/entertainment/4369856.stm) and Apple rewarded Alex Ostrovsky of West Bloomfield, Michigan with a whole raft of goodies for downloading the billionth track from the iTunes website on 23rd February 2006. Interestingly one of the 'prizes' was the establishment of a scholarship in his name at the prestigious Juilliard School of the Arts in New York; interesting because of its signaled continuation of the relationship between benefaction and education. Getting a record deal 10 years ago was about as difficult as finding the Holy Grail. Releasing a record now is just as hard; having your music heard, or even purchased, now is as simple as <file>… <save as>… <share>…

The point is that the business of the music business is music. Listening to music is an entirely personal thing as taste, genre and style reflect the values, beliefs and preferences of the listener. Thus selecting music to listen to becomes a matter of personalized choice which reflects self. Buying exactly what you want, rather than a whole album of an artist's self-indulgence, is, to a generation used to 'zapping' [2] from one sensory experience to another, much more appealing and economic. Technology, in this instance, has thus enabled a revolution in what is listened to commercially.

Personalizing your own photo album gathered through your mobile phone, PDA, digital camera or scanned from old photographic paper prints is also now possible using the *iPhoto* software in the *iLife* suite. It is also possible to do this using photo packages for the PC. Furthermore, as the cost of Read-Only Memory (ROM), falls it is also possible to build up a vast collection of video text organized and edited using *iMovie*. This enables a person to represent themselves using multimedia but it also allows them the ability to access and engage with high quality audio-visual materials delivered direct to their desktop, PDA or DVD player.

A message for education appears at this point. Learners can access resources, materials and professional conversations anywhere that is convenient to them.

1.2. Post-modern Approaches to the Self

Mark Taylor [3], adopting a postmodern approach to the study of the Theology adopts the concept of 'erring' as a way of playing with ideas. He says, 'Erring extends to the reader an invitation to participate in a "thought experiment"' [4]. As long ago as 1984 he described the role of the self in making sense of experience and literature – he uses the word scripture, consistent with the discourse within which he was writing – and makes this important observation:

> 'This infinite interrelationship of interpretations cannot be captured in a closed book; it must be written in an open text. Texts point beyond themselves to other texts. In view of this intertextuality, it becomes apparent that writing is a ceaseless process in which writer is already reader and reader necessarily becomes writer.'[5]

This is a remarkable prefiguration of the 'intertextuality' of the Internet incidentally – today it would be described as non-linear hypertextuality. Fundamentally, moreover, it points to the dynamic relationship between a self and that which it is reading/learning. The reflective cycle, and its little sister action research, depend on the learner interpreting the messages of their learning and applying them in the context in which they are working. Thus the self takes control of the truth of a situated reality. Charles Taylor charted the evolution of concept of the self through the history of western philosophy arriving in his final section at an analysis of the then contemporary scene. He argues that, 'Modernism succeeds…in the search for sources which can restore depth, richness and meaning to life' [6]. Presumably Taylor would celebrate then any modern technology which restores depth, richness and meaning to the learning process. He would certainly acknowledge the need for tools which can liberate the self from ignorance, intellectual impoverishment or alienation. Andy Law describes this as 'liberation technology' [7].

1.3 The iPod in Learning

In the same way that music is the business of the record industry so learning is the business of the education industry. Failure to understand that will always be problematic for policy-makers, politicians and people who wander into educational administration. What matters in education is learning; not the manner by which it occurs. This means that if iPods can facilitate learning they should be embraced as a matter of urgency.

It is an accident of history that the act of publishing an audio file over the internet in MP3 format has acquired the title 'podcasting'. The resonance with the iPod is unmistakable but there is only brand coincidence. Noteworthy, however, is the emergence now of what has been described as 'iPoducation' where materials, resources and learning tools are downloadable to the device for use in personalized learning. For example at http://portables.about.com/b/a/257148.htm, academic reference is made to the development of the iPod dictionary. Whilst that 'tool' is targeted on pupil learners, work going on at Stanford University is potentially significant for anyone involved in the facilitation of professional learning. The '*iTunes* in Association with Stanford University' project (See http://itunes.stanford.edu) aims to deliver lectures, seminars and other learning resources provided by Stanford 'Faculty' in MP3 format through the *iTunes* interface. 'Podcasting' has 'gone up' to University. As part of an on-going experiment the RE-Net consortium (http://www.re-net.ac.uk) has begun to provide, in both streaming media and downloadable format, videos focused on the professional learning of tutors new to RE [8] in Higher

Education. This service, funded by the TDA, is designed to facilitate capacity building in the teacher education community so that the self that meets other emerging selves is as well prepared as possible.

1.4 A word of caution

It is outside the remit of this paper to discuss the didactic pedagogy implied by the download metaphor. It is to be assumed that meaning will be derived from resources accessed by this method through negotiated social co-construction with tutors and/or peers. Technology provides a range of tools that allow for such interaction which have been evaluated in many other places.

2. i^npd

At this point it is possible to lay out the case for i^npd. Its articulation depends on the acceptance of three factors:

1. the iconic nature of the motif 'i' as an agreed symbol of contemporary life which signals something to do with technology;
2. the theoretical understanding of the relationship of the self to the learning process suggested above;
3. the assertion that technology liberates people to become professional learners.

The story of the author's professional development runs alongside the acquisition of a range of IT, ICT and e-learning skills. From squatting around a tape-driven games terminal outputting through an old TV as a student, to the development of advanced knowledge management systems under contract, there has been a 25 year gap but in that time contemporary technologies have been intriguing partners. There has been an **i**nteractive relationship between them. Learning in and through technologies is consolidated with reflections on reading, critical incidents and other professional experiences. MacGilchrist, Myers and Reed [9] famously combined these factors into the notion of intelligent schools. Stacey's [10] notion of 'organizational intelligence' has been a constant reminder of the need to work with data to develop as big a picture as possible of the factors affecting performance in a learning context. It has been useful also as a key to evaluating certain events, behaviours and actions in working context.
      Since 2002, opportunities have arisen to travel and test emerging ideas and evolving practices. Sharing such professional development activities with partners in international contexts has enabled personal enrichment as well as benchmarking current projects against the standards pertaining in other countries. Undertaking CPD work in Malaysia was a formative experience personally and professionally but it was also instructive about the need for robust technical infrastructure if professional development is to be facilitated at a distance. That it is now possible to facilitate the learning of children in Malaysian schools by peer to peer working with Faculty in Teacher Education Institutes counts as 'magic' under the conceptual map laid out by John Naughton in *A Brief History of the Future: The Origins of the Internet* [11]. It seems, therefore, that internationalizing professional development work will serve only to deepen, enrich and give added meaning to the working context of a modern professional self.
      The dynamic interaction of knowledge, problem-solving skills, reflexivity and computer-aided working means that the self embedded in this piece of writing is integrated

fully in a personal and professional development continuum. This is indeed a holistic approach to professional learning where 'i' multiplied by, at least, the four factors: interactive, intelligent, integrated and international leads to development.
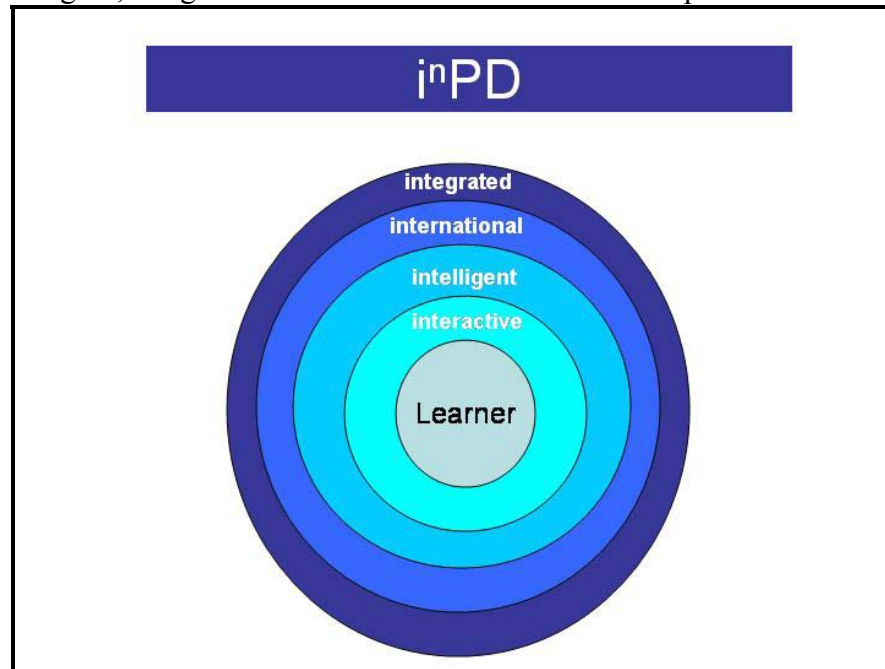
iⁿPD

integrated
international
intelligent
interactive

Learner

Figure 1: Graphical Representation of iⁿPD

2.1 Computer-aided i^npd

This paper would probably have never been written but for the advent of the personal computer. In fact it would be meaningless without it for technology facilitates interaction, the development of intellectual capital, internationalization (without ever having to get on a plane!) and the integration of personal and professional selfhood.

When the auto/biographical journey underpinning this paper began, 'Computers were for boffins, for the finance department, for inventory management, for regulating machinery and the great question was, 'What have they got to do with the rest of us?' In 1984 we found out. Steve Jobs rescued us from the private world of computers and introduced the Apple Macintosh, a computer for the rest of us. Computers became personal.' [12]

In short, then i^npd is about a personalized professional learning journey facilitated through the medium of technology.

3 Research tools

The key research tool underpinning this paper is auto/biography combined with references to an eclectic body of literature derived from reading across a wide range of interests. This is a valid way of tackling a new research field in which the body of knowledge is very much in its infancy. It is argued that the discourse has not been defined nor its parameters set and so the inclusion of a variety of sources is justified. Linden West [13], whose work in auto/biography is helpful in determining a professional learning journey, constantly exhorts the need to 'play' in a post-modern sense with an idea. That is what the last section of the paper attempts. No truth claims are made on the basis of the research since it is small-scale

and non-generalisable. What is hoped, however, is that readers will find within the words something that may be of use to them:

> '… its validity primarily lies in the meaningfulness of the analysis to other sense-making practitioners wrestling with similar questions, as well as the extent to which the interpretations illuminate the struggles of learners elsewhere, in analogous situations.' [14]

In order to triangulate the theory as a way of increasing its reliability, case studies are offered below which tell, in brief, the stories of four practitioners struggling to make sense of their own professional context, contexts in each case dominated by technology. The studies have been selected because each action research project focused on one of the four 'i's in i^{n}pd identified above. The first student set out to establish the impact on progression of an interactive managed learning environment (MLE) on pupils working at a distance in a range of schools. The second chose to develop a web-based vocabulary for Geography for use with learners lacking intellectual capital and the motivation to grow it. The third exploited existing international professional development experiences undertaken in South Africa to establish a networked learning community between partner schools in Kent and Soweto. The fourth, an ICT coordinator in a primary school sought to establish the impact on pedagogy of the integration of interactive whiteboards in the everyday practice of the teaching staff. Each student had to build their own ICT and/or e-learning capacity, act on the professional learning gains they made *in situ* and reflect on the development of a 'self' through the process.

3.1 Case Studies

Each of the case studies laid out below relates to a real student working within the MA framework at Canterbury Christ Church University. All of them were learning professionally whilst studying for a Masters Degree and maintaining themselves in a work-based setting. In the interests of confidentiality the names of the students have been removed.

3.1.1 Student 1 - interactive

This professional learner would today be described as part of the extended schools workforce. As an undergraduate on the four year B.Ed. course that existed at the turn of the century, they were identified as possessing high level ICT skills and were recruited to work on the New Opportunities Funded ICT training programme (NOF). The student never achieved Qualified Teacher Status (QTS) and did not complete a Newly Qualified Teacher (NQT) year, preferring to work in the education support services, providing e-learning solutions to schools. One such service was the Oracle Education sponsored software package *think.com*. The student carried out a qualitative and comparative study of pupils in two schools both using the MLE to establish whether the interactivity of the website effected learning gains in the core areas of numeracy and literacy. Both the teachers and the pupils reported higher levels of motivation and increased scores against standardized benchmarks as a direct result of their interaction with the software and with pupils at their own and in partner schools.

3.1.2 Student 2 - intelligent

Concerned that pupils were losing marks needlessly at Key Stage 4 in Geography, this student – the subject leader – decided that they wished to find an exciting and dynamic

way of enabling the learning of subject-specific technical language and vocabulary. The senior leadership of the school, in a mainly middle class, white area of North Kent was prepared to pay for the purchase of additional textbook resources. The student surveyed the market and concluded that no one resource would meet the particular needs of their pupils. They also felt that the style and layout of 'off the shelf' materials would not inspire and motivate some of the more disaffected learners. Through careful negotiation with the course tutor it was agreed that an intelligent way of solving this problem was to write a context-specific vocabulary, convert it into html (the language of the internet), organize it alphabetically, make it searchable and then put it online. After a year of implementation, value had been added by 10% to the overall scores of the pupils examined in that department.

3.1.3 Student 3 - international

As a post-OFSTED [15] outcome this subject leader was ambitious to liberate pupils from the psychologically crippling effects of racism. Having returned recently from a professional learning visit to Soweto the student set about establishing reciprocal links with schools in the township in order that pupils would grow in mutual respect and understanding. Technology was the medium since the South African school had rather better ICT facilities than conventional resources such as books and classrooms. The ancient idea of pen-friends was attenuated for the contemporary context. E-mail exchanges between pupils and teachers, teachers and pupils and peer to peer meant that an international exchange occurred without the difficulties or expense of overseas travel. The learner discovered that video-conferencing was not appropriate in this context because of the flakiness of internet connections but a more asynchronous methodology was suitable for producing significant learning gains on both sides of the partnership. The student was also able to benefit from professional interactions with counterparts in another continent and with a whole set of different pressures and problems.

3.1.4 Student 4 - integrated

iboards [16] are not so much a thing of the future as a reality of the present. This was the initial finding of this last student, taken on as a classroom teacher but given the task of ICT coordination soon after appointment. The head of the school had invested heavily in *iboards* as a driver for pedagogic change since there was concern about standards in this context with a highly aspirant parental community. Seeking to embed ICT in everyday practice the student set about learning how to operate the *iboard* as a tool for more effective teaching than simply 'show and tell'. Having developed some models of interesting practice, the student worked with staffroom colleagues to build their capacity and to show how it was possible to integrate such technologies into everyday classroom operations. As part of the requirement for the Masters it seemed logical and opportune to investigate the impact of this integration on pedagogy. Using a carefully worded questionnaire and semi-structured interviews with some participants and the head teacher, evidence was gathered which showed how classroom practice had changed. As an unintended outcome of the research it was also possible to demonstrate how the action research project had altered the mindset and approach to technology of the teaching team. In other words the self that was involved in an integration activity was dynamically effecting change in the rest of the school community. In that sense i-enabled PD had occurred. Since the student had made personal learning gains in technology skills acquisition, research methodology and people management it is fair to say that this was a clear experiment in self-actualised professional development.

4. Conclusion

Further extrapolation of the stories told above would, if crafted appropriately, reinforce the claim of this paper that i-enabled PD produces learning gains. Combining all four factors together, plus any others that may be relevant, makes for a potentially rich theoretical framework for all future professional development. It is thus proposed that i^{n}pd, as a convenient descriptor for a richer, deeper and broader understanding of personal and professional development, has some validity. What the CPD community might like to consider now is creating for its stakeholders and clients professional learning opportunities where each 'self' benefits from interactive, intelligent, international and integrated experiences. Technology can make this happen but it may require some renewal of attitudes to and facilitation of professional learning episodes. Central to this emerging way of working may have to be learning pathways, identified by the learner themselves and negotiated with institutions willing to risk validating study designed by the student. The alternative is the educational equivalent of providing a young person with an iPod but not letting them have access to *iTunes…* in keeping with modern fashion but absolutely useless in relation to their core businesses: music reproduction/learning..

References

[1] The author is currently Director of Learning and Teaching with ICT in the Faculty of Education at Canterbury Christ Church University, a Director of the Training and Development Agency (TDA) funded Teacher Training Resource Bank www.ttrb.ac.uk and the Project Director of RE-Net www.re-net.ac.uk.

[2] The concept of 'homo zappiens' is well-documented in the literature See Rae (2004) *Where, When and How do University Students acquire their ICT Skills?* http://www.ics.ltsn.ac.uk/pub/italics/Vol4-1/rae.pdf.

[3] See Taylor M. (1984) *Erring A Postmodern A/Theology* University of Chicago Press Chicago

[4] *Op. cit.* p. 17

[5] *ibid.* p. 16

[6] See Taylor C. (1989) *Sources of the Self University of Cambridge*, Cambridge p. 495

[7] See Law A. (2001) *Open Minds: 21st Century Business Lessons and Innovations from St. Lukes* Thomson, London p.160ff.

[8] RE is the shorthand term given to the curriculum subject Religious Education in the United Kingdom

[9] See MacGilchrist B. Myers K., Reed J. (2004 edition) *The Intelligent School* Sage, London

[10] See Stacey R. (2002 edition) *Strategic Management and Organisational Dynamics: The Challenge of Complexity* FT Prentice Hall, London

[11] Naughton J. (2000) *A Brief History of the Future: The Origins of the Internet* Phoenix, London

[12] See Law A. (2001) *Op. cit.* p.162.

[13] See West L. (2004 edition) *Beyond Fragments: Adults, Motivation and Higher Education* Taylor and Francis, London

[14] See West L. (2004) *Op. cit.* p.13

[15] OFSTED stands for The Office For Standards in Education, the UK non-governmental agency for the inspection of learning settings, schools and initial teacher education

[16] Interestingly the agreed short hand for interactive whiteboards for this project became *iboards*.