

Convivial Pedagogy in the Time of Digitisation

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Abstract

This paper explores the nature, and the consequences for pedagogy, of education's forthcoming and fundamental transformation, as made necessary and possible through contemporary technology and as embodied in The Global School. Addressing the exchanging of information, sharing of ideas and stimulation of concepts that will characterise Digital Age learning, as the universal lifelong educational experience eventuates, it becomes clear that many long-standing pedagogical concerns no longer apply. As the technology comes back to the user, teachers, enabled to concentrate upon 'real' teaching rather than requiring intricate computing proficiencies, may come into their own. The need from now onwards is for a convivial learning-supporting pedagogy, delivering the creative learner-driven curriculum, with the well-informed, on-going debate as the fundamental methodology. The substance, practice and consequences of education may become much more equitable, ethical and enjoyable (and far less competitive, test-oriented and world-of-work-dominated). These and other pedagogical and associated implications of this ground-breaking 'Education embodying Digitisation' reality are investigated and welcomed.

Keywords: Pedagogy; Teaching; Digitisation; E-learning; Education and ICT; Global School

1. Introduction: Our World Transformed

Digitisation has changed, and is continuing apace further to change, both the nature and ambition of educational objectives and the means and enjoyment of their achievement. The society in which the teachers and learners operate has altered radically – and will be characterised by on-going alteration. Indeed, the ways in which the acquisition of knowledge, the transmission of information, the sharing of ideas and the stimulation of creativity – encapsulated in the term 'pedagogy' – may be achieved manifest an entirely fresh educational era. This thoroughgoing surge forward represents a pivotal leap in human potential as profound as the wheel in relation to development and as significant as the book in the context of information. The participative connectedness of all learners is something more than enabling development: it *is* development. But it has yet, with universally-enhancing, equity-accomplishing or profoundly humane consequences, to occur.

As Foer suggests, "there has never been a better time to advance a vision for how to organise technology in a way that benefits everyone" (Foer, 2017). It is relatively easy to recognise that Digitisation changes everything but somewhat more difficult to understand just what, in practice, that means for stimulating learning experiences and optimum curriculum delivery. The virtually general recognition that everything is transformed has yet to be matched by any fundamental reshaping of school organisation, classroom culture or institutional philosophy.

With the one emerging universal school – the worldwide lifelong learning community now referred to as The Global School (see below, and Uys & Douse, 2017) – considerations of curricula and of teaching and learning methodologies cannot be limited to, or even focussed upon, those situations prevailing or aspired to in particular countries or communities. With universal devices and connectivity, 'search' works the same, for both the distinguished computer-shy professor in Dublin and the teenaged digital savvy in Dhaka.

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Moreover, as all learners and all teachers worldwide are now (about to be) in contact with one another, the educational opportunities are of a different dimension than hitherto, comprehensively shared as opposed to discriminatorily segregated. And, as will be discussed below, this open and active participation has profound implications for the substance, creation and transmission of information, ideas and attitudes, and will be accompanied by an intensifying realisation of the possibilities of learning-supporting pedagogies enabling the effective and enjoyable delivery of learner-owned curricula.

Accordingly, with our heads in the cloud but with our feet firmly planted upon *terra firma*, courageously blending cautiousness with creativity, let us explore how best pedagogy may serve and be served by this emerging Digital Age and the learners and teachers (i.e. everybody) therein.

2. Aging Terms in Changing Times

Digitisation enables and necessitates the kind of educational leap forward that occurs only once in every thirty or so generations. And, let it be abundantly clear, we are not talking about piecemeal Information and Communications Technology applications.

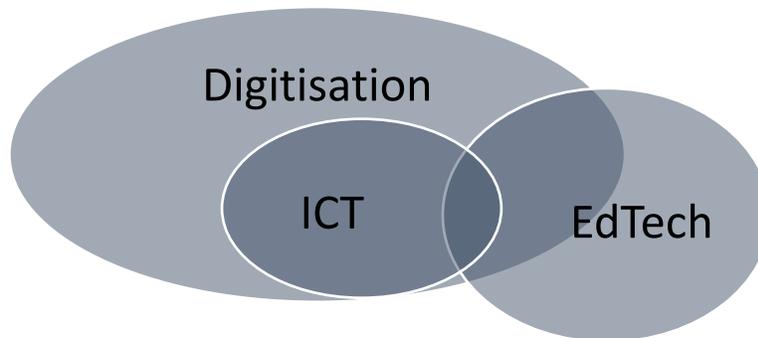


Figure 1: The relationship between Digitisation, ICT and Educational Technology

For ICT is, essentially, a second millennium conception. Set against the over-enthusiastic promises and the world-shattering expectations, the practical consequences of Information and Communications Technological applications to education may be summarised as ‘over three decades of disappointment’ (see, for example, OECD, 2015). Claims of effective ICT consequences for learning abound but encountering convincing and replicable evidence is as elusive as establishing concrete proof of clairvoyance. Yes, there are encouraging but limited indications from (the originators of) digital textbooks, asynchronous and synchronous online communication systems, learning management systems, personalised learning systems, learning analytics, Artificial Intelligence, Augmented Reality, machine learning, open education resources, virtual libraries, assistive and adaptive technologies, short message services, collaborative technologies such as wikis and shared online document systems, even the much-maligned social media and, looming above them all, the gathering Cloud. However, the absence of an integrated, wholehearted and widespread commitment to taking full advantage of all of these possibilities has limited each one’s development and restricted their prospective benefits: the potential contribution of Digitisation remains relatively untapped.

Looking at the titles of recent books, journal articles and conference presentations, across the broad education area, one encounters a set of dysfunctional 20th century categorisations³. The authors and speakers address ‘Distance Learning’, ‘E-learning’, ‘Lifelong Learning’, ‘Blended Learning’ and the like as if they were separate and isolated entities. In accordance with conventional practice, they focus upon particular elements of an integrated whole as if they had discrete existences. This treatment might well have been appropriate in the late 20th century (when people still sent one another faxes and took rolls of film to the high street for developing). It is incongruous now. For when we discuss ‘education’ we are already and inevitably talking about those incorporated ingredients. [Let it be admitted, the present authors have, until recently, been similarly guilty.] And, by failing to recognise that ‘Open Learning’ and suchlike are already inextricable and inseparable foundations of today’s learning and teaching, we are all symbolically denying the fundamental educational transformation that is already occurring in many locations across the world.

³In recent JEHD issues, for example, the authors of several valuable contributions to the debate (for instance: De Jesus, 2015; Özgür & Koçak, 2016; Al-Maqtri, 2014; Harande & Ladan, 2013; and Birbal, Ramdass & Harripaul, 2018) manifest this tendency.

Attempts at partial solutions, such as prioritising distance learning to create new generations of specialists, are akin to electrifying only a portion of a railway system or strengthening just a few of a major construction's foundations. Unless the entire environment is transformed in an integrated fashion, a few worthy novelties will not only appear out of place but their incongruity may damage the overall entity, missing the vital opportunity for synergies to occur. Or, to put it another way, piecemeal ICT within an outdated system is no substitute for wholehearted Digitisation-based educational transformation. While ICT has undoubtedly made some contributions to current educational delivery and administration, Digitisation now makes feasible and inevitable an entirely different dimension of communal and participative learning. Only by recognising, planning for and promoting this evolving development may education's worldwide potential for communal well-being and human happiness be fully fulfilled.

3. The Distractions of 'Good Citizenship' and 'Relevance'

Let it be trusted that children worldwide will, in the pre-primary and primary phases, enjoy achieving an understanding of how contemporary technology may work for them, along with such safeguards, supplements and subtleties as caring adults deem appropriate. Prior to commencing secondary, in the opinion of the present authors, an easy familiarity with three languages should be accomplished – mother tongue, another language (international, if that mother tongue be otherwise) and computer talk (sign language might justifiably make up a fourth). Ideally also, a lifelong love of learning should be engendered at those early stages, based upon a shared enjoyment of the acquisition of ideas and information, implying a pre-secondary curriculum of fascination and a pedagogy of pleasure. But, as the secondary phase approaches – and let us not be too precise regarding ages or stages – and as the capacity for self-direction emerges, the tyranny of externally-imposed curricula, albeit with well-meaning imposition, may and must fade away.

The use of schools to achieve religious, military, ideological, empire-governing, developmental or environmental outcomes, no matter how well-intentioned, is akin to using them in the production of chimney sweeps or child soldiers. The claim that the teacher is “an educator with an ethical mandate... an expert orchestrator of learning environments to foster and support the development of skills” (OECD, 2013) is true only in so far that the ‘ethics’ prohibit the proselytizing: fostering skills is fine, provided that no-one's purposes, beyond those explicitly of the learner, are being served. Given that schooling has, over the centuries, been misapplied in the service of particular crusades, whether exploitative or well-intentioned, it is good that Digitisation offers an escape from education as indoctrination, albeit bringing with it heightened opportunities for exploitation, lest we all be thoughtless.

Teachers, along with humans generally, have a propensity to hold opinions, favour certain causes, belong to movements and, predominantly subconsciously, regard certain ways of thinking, behaving and living as ‘normal’, and see some of the alternatives as deviant – on the basis that ‘you teach what you know but impart who you are’. For instance, Pythagorians advocated the avoidance of beans (this example is a bit weakened with the recognition that the classical triangular guru was speaking in a psephological context). What they should studiously avoid doing is using their authority as educators in the practice of propagandising: ‘moral education’ is the height of immorality. For teachers, ‘ethics’ relates to the honesty, openness and diligence applied in supporting the learning in the learner's chosen direction. Which certainly involves understanding each learner in their indivisible entirety in cognitive and emotional components, and keeping as a reference point their well-being, both physical and emotional, and guiding them in their learning process. But, in *The Global School* (see below), the drive and the direction come from the learner, and this is to be reinforced and sustained by their teachers – it is that which represents their true ethical mandate. And it is a mandate that comes not from society's goals nor from personal commitments but, rather, from the learner.

Industry, commerce, research and academia, worldwide, urgently require relevantly skilled or readily trainable workers, looking in vain to conventional education systems to deliver them (see Bughin *et al*, 2016, for example). However, just as economic growth is a pre-Digital Age obsession, so also may schooling no longer explicitly prepare people with specific discipline knowledge for situations in which they will need frequently to upgrade their skills, especially when the nature of those skills are unknowable and the mechanics of transformation unfathomable.

Education has for too long been misdirected by macroeconomists – it may now come into its uncompromising own. Moreover, given that tomorrow's labour market skills demands are increasingly characterised by uncertainty, the false notion that education is predominantly preparation for the world of work may at long last be overturned and the vital distinction between ‘education’ and ‘training’ may valuably become a hard border (see Douse,

2005). Above all, the myth of educational input being justified by economic returns is exploded with the realisation that education's true objectives are mainly non-material.

Intangible capitalism and the post-human economy have the potential to entrench and exacerbate inequality – both within and between nations. Franklin Foer sees the consequences proceeding even further, colonising the human mind itself: “Solitary genius is replaced by the wisdom of the crowd, the networked mob enforces conformism... algorithms make it impossible to think for ourselves” (Foer, 2017, quoted by Tarnoff, 2017). This is the context in which Digital Age education must operate: it has yet to be thoroughly thought through on that basis. Perhaps brain-computer-interfaces⁴, incorporating safe, small, wireless and long-lasting cortical implants, will enable the achievement of a concomitant upgrade in human capabilities. Our earlier admonition to keep our feet firmly upon the ground applies here – advances likely to be more than one decade into the unforeseeable future should not unduly distract us now – although today's students will undoubtedly enjoy exploring the possibilities.

4. Only Connect

ICT's failure to deliver the anticipated surge forward in educational practices and outcomes is, as discussed, in large part due to the dependence upon isolated supplier-designed ICT applications in particular aspects of specific subject areas by those teachers who happen to be interested, as opposed to any kind of overall transformation of the entirety of education, as necessitated and made possible by contemporary technology. With Digitisation, we should no longer simply be talking and planning in terms of this and that infusion of ICT assisting ever more outmoded approaches and arrangements. An entire overhaul is called for, embodying contemporary technology in its connectivity, organisation, curriculum content and research, and similarly in innovation, learning methods and management.

Such a holus bolus revamp is necessitated and enabled by Digitisation, including the emergence of what, for all intents and purposes, may be regarded as the Global School (see below). Its particular manifestations in relation to how best that which is to be learned is to be facilitated and conveyed is encapsulated in the development of the convivial and constantly creative Learning-Supporting Pedagogy. As ‘education’ now means ‘education in the context of Digitisation’, the notion of ‘Pedagogy and Digitisation’ is meaningless. Reflecting the emerging duality of consciousness – the virtual and the immediate – this combination will be so commonplace as to become unnoticeable, as illustrated in the present authors' description of some ‘typical’ Global School activities:

“There are about thirty teenagers in the room. Most are deeply involved with their handheld devices, type-tapping away, speaking, listening, photographing, manipulating graphics, researching, up- and down-loading, dispatching items for instant printing... Some are finalising assignments for submission; one group is building up a family history diagram on a wall screen; a teacher is attending face-to-face to another's question about genealogy. But this isn't the entire class – some twenty others, including adult learners, are tied in from locations elsewhere, mostly far overseas, all having closely followed the teacher's introduction and, along with those physically present, proceeded in their selected directions at their own pace. This is a Caribbean History course, focussing today on indentured plantation workers. Live interviews with some of their descendants are available, along with film, historical documents, virtual museum visits and other relevant materials. The learners are labouring in the fields, encountering the economics of sugar, perceiving it from the plantation owners' perspectives, and then from the workers' families', and each is reflecting upon the overall phenomenon.”

The transformation involves also the development of a constantly creative Learning-Supportive Pedagogy. Whether dealing on a one-to-one tutorial basis, guiding a conventional face-to-face class, handling a hundred or so learners in fifty locations in two dozen countries, or developing modules for future utilisation by come whomsoever may, the methodology is one of guiding and supporting as opposed to directing and supervising. While this may well be contested, and probably by some teachers (and, in the fullness of time, conceivably by Artificial Intelligence also), student-power will overcome: none can withstand the open, participative, peer-driven clout of several billion learners.

Clearly, Digitisation has profound pedagogical implications. Thinking critically about learning and teaching has traditionally encompassed the relationships between what is to be covered, how it is taught, and why its transmission matters in our communities, societies and times. The applications of ICT took those considerations forward in an interesting way, much as driving into a cul-de-sac may often enable driver and passengers to encounter

⁴ The BCI Society provides valuable insights and information on developments in this area: <http://bcisociety.org/>

alluring vistas that would otherwise have been side-stepped. But blind alleys, however enthralling, inhibit purposive travelling and, in the end, detract from the enjoyment of journeying as well as from its successful conclusion. In the Global School, Digitisation-enabled methodologies are embedded within a structure embodying humane values, lofty aspirations and contemporary common sense. The teacher shall facilitate – and this is taken further in our concluding ‘Tailpiece’ section, below. Once the far-reaching possibilities are comprehended and the challenges faced, learners and teachers may all come into their own. Educationally, these are the most exciting times since Socrates.

Universal connectivity straddles schools worldwide and cuts across the institutional, societal and historical factors that gave rise to pernicious socio-educational discrimination. Bernstein’s concern with the ‘degree of control teacher and pupil possess over the selection, organization, pacing and timing of the knowledge transmitted and received in the pedagogical relationship’ would not have survived the onset of Digitisation. Embodied in the Global School, it signals a sharing of learning experiences and a coming together of classroom cultures. And this transformation offers genuine possibilities of breaking the link between cultural and educational codes and the process (as well as the content) of education related to social class and power relations (see Bernstein, 2000). It may be anticipated, and welcomed, that the power of learner-driven curricula will overcome this last night of the professorial oligarchs. With such awakenings, albeit within convivial settings, dramatic conversions occur.

5. Pedagogy and ICT: an Historical Relic

Whether ICT was perceived as a social and cultural phenomenon, as a resource for learning and teaching, and/or as a new field of concepts and affordances for learning and teaching, there were, as pointed out by Loveless, pedagogical implications (2008). David Perkins’ concept of ‘Person-plus’ (1993) describes people’s thinking in partnership with others and with the help of tools and artefacts, ranging from “notebooks and pencils to databases, multimedia presentations and Twitter” in the surrounding environment. The ‘Technological Pedagogical Content Knowledge’ (TPCK) model embodies a recognition that the “intelligent pedagogical uses of technology require the development of a complex, situated form of knowledge...” which is seen as “...different from and greater than that of a disciplinary expert (say a mathematician or a historian), a technology expert (a computer scientist) and a pedagogical expert (an experienced educator)” (Koehler & Mishra, 2007). Husbands (2012) lists a range of research studies offering evidence to support some of the features of pedagogy and ICT (such as ‘The Interactive Education Project’, ‘The Pedagogy with E-Learning Resources Project’ and ‘Validating a model for pedagogy and ICT across phases’) indicating that “ICT is more than ‘just a tool’, and contributes disruptive, distinctive, relationships in pedagogical activities”. It is agreed that “models of pedagogy need to be “relevant, grounded in teacher experience, flexible, complex and open to reflection and adaptation” (Loveless, 2010).

But it is necessary to proceed further in order to confront the actuality. Sean Morris makes the point that “designing edtech resources from a digital pedagogy approach is not... simply using tools, nor rolling out the whizz-bang jazz bands apps to impress students or observers... (but) systematically examine both tools and teaching for their learning value. In this way, teaching and learning drives the use of technology, rather than the converse” (Morris, 2014). As already emphasised, seeing ICT as a tool to be applied piecemeal, as opposed to recognising Digitisation as necessitating and enabling overall transformation, explains the disappointing consequences of the application of contemporary technology to date. The real requirement is for creative, reflective and critical immersion by self-confident learners and teachers in the entirety of the new integrated, educational world created by Digitisation, rather than dabbling as outsiders with isolated bits of the technology. ‘Pedagogy and ICT’ is a failed 20th century anachronism.

Some have gone so far as to claim that illuminating good practice in teaching and learning with ICT will require “examining teachers’ ideas, values, beliefs, and looking closely at the thinking that leads to observable elements in practice” (Webb, 2002). This remarkable and, indeed, authoritarian intention is matched in erroneousness by the belief that 21st century teachers will need to have an extensive knowledge of the latest technology and be able to fit its use either into their existing pedagogy or to extend their pedagogical knowledge so they can accommodate up-to-date devices and systems effectively in their teaching. Taken even further, and recognising the limitations on resources and the demands on teachers’ time, the alternative of encouraging teachers to focus only on those ICT resources which are most relevant to them and their subject has also been proposed (Cox *et al*, 2003). A few seconds of reflection will enable such misconceptions to be consigned to the refuse bin marked ‘toxic twaddle’. Consider a lorry driver or a medical practitioner or an airline pilot or a security guard or a specialist in family law. Who shall claim that, in order to identify good practice in any of these occupational areas, the “ideas, values, beliefs, and (underlying) thinking” of

those practitioners would need to be investigated? Moreover, should some new (and, on first inspection, terrifyingly complex) device become available – such as a detector for highway blockages, or for diseases of the colon, or for impeding storm conditions or for armed intruders – who in their right minds and moods would argue that it might sensibly be ignored if the operative felt uneasy about it?

Just as no doctor (or literary editor) would say “I’m dealing with every part of you apart from your colon”, and much as no guard regarding his job as secure would, in the manner of bold gendarmes, contend that “I’m ready to confront helpless woman or little boys that do no harm but am no longer looking out for armed intruders”, so also could no self-respecting teacher declare that “we shall have to work in darkness as I am unable to turn on the lights” or “I can teach you about Europe and the Americas but I’ll not be covering the Caribbean as I’m scared of that machine over there in the corner”. No. The technology is coming back to the user, to even the least computer-comfortable user. The notion of digital complexity will fade as The Global School eventuates and as Digitisation makes even the most advanced technology straightforwardly transparent in educational, as in everyday, contexts.

6. Pedagogy and Digitisation – a Category Error

In the phenomenological or lived experience of the day-to-day existences of students and teachers, technologies are part of a much larger context of meaning and social practices. Whatever our aim or goal for education, technology will be there, as it always has been since Euclid drew lines in the sand with a pointed stick and since Brahmagupta reached for his abacus. It would appear that it is opportune for educators to turn around the traditional relationship toward technologies and start calling the pedagogical shots. There is maybe a modicum of merit in the claim that Digital Pedagogy is about approaching digital technologies from a critical pedagogical perspective (Hybrid Pedagogy, 2013). The introduction to a thought-provoking Hybrid Pedagogy series (Kruger-Ross, 2013) claims that “Digital Pedagogy is precisely not about using digital technologies for teaching and, rather, about approaching those tools from a critical pedagogical perspective”. While this is true as far as what ‘digital pedagogy’ is not, it rather misses the point in two regards.

Firstly, there is no ‘digital pedagogy’ as all pedagogy is from now onwards digitally-based. Education these days means education founded upon Digitisation: the adjective ‘digital’ is superfluous. Secondly, the whole idea of applying or choosing not to apply ‘digital tools’ is, as explained above, a 20th century distraction – let us take it for granted that a house has furniture and devote no time to worrying about when the family should sit down on chairs, or eat at a table, or go to sleep in their respective beds, as if these were unfamiliar practices. We either live in a digital universe or we are no longer alive.

Margaret Cox and her colleagues recognised that what they called the ‘pedagogy of ICT’ should be understood within a broader framework of educational practice and they also proceeded to claim that “illuminating good practice in teaching and learning with ICT will require examining teachers’ ideas, values, beliefs, and the thinking that leads to observable elements in practice” (Cox *et al*, 2003). They err substantially in asserting that this will “require the teacher to have an extensive knowledge of ICT and to be able to fit its use either into their existing pedagogy or to extend their pedagogical knowledge so they can accommodate ICT effectively in their teaching” (Cox *et al*, 2003).

Similarly mistaken is their view that the majority of teachers (will need to) extend their range of uses of ICT substantially or simply to focus only on those ICT resources which are most relevant to them and their subject. As Kruger-Ross puts it “Teaching well cannot be reduced to technical understanding... I want to see educators turn around the traditional relationship toward technologies and start calling the pedagogical shots” (Kruger-Ross, 2013).

Elsewhere in this paper it is emphasised that all teachers are now ‘teachers in the context of Digitisation’ – just as education’ now means ‘education in the context of Digitisation’. Accordingly, ‘pedagogy’ now means ‘pedagogy in the context of Digitisation’ and, consequently, the second and third words in this section’s title [‘Pedagogy and Digitisation’] are redundant.

7. Critical (Digital) Pedagogy

Stommel (2014), echoing Paulo Freire (1963), claims that “pedagogy is not ideologically neutral”. Critical Pedagogy is an approach to teaching and learning predicated on fostering agency and empowering learners (implicitly and explicitly critiquing oppressive power structures). In his forward to Freire’s *Pedagogy of the Oppressed*, Richard Shaull writes that “Our advanced technological society is rapidly making objects of most of us and subtly programming us into conformity to the logic of its system... The paradox is that the same technology that does this to us also creates a

new sensitivity to what is happening” (Shaull, 1968). A Critical Digital Pedagogy demands that open and networked educational environments, such as those blended within the Global School, must not be merely repositories of content but, rather “...platforms for engaging students and teachers as full agents of their own learning” (Shaull, 1968). On the basis that Critical Pedagogy is primarily concerned with an equitable distribution of power, Pete Rorabaugh asserts that “If students live in a culture that digitizes and educates them through a screen, they require an education that empowers them in that sphere, teaches them that language, and offers new opportunities of human connectivity” (Rorabaugh, 2012). As made clear earlier, that is to be achieved at the primary stage, building upon children’s early familiarity with their digital environment.

Critical Pedagogy sees itself as much a political approach as it is an educative one. As Sean Morris writes, it is “a social justice movement first, and an educational movement second” (Morris, 2014). Accordingly, it is claimed that Critical Digital Pedagogy must also be a method of resistance and humanization... not simply work done in the mind, on paper, or on screen... it is work that must be done on the ground” (Stommel, 2014). Empowerment will apply only – and being full agents will apply if and only – what is studied and how it is to be mediated emerges from the learner. It is suggested that, within the Digital School, the (digitally-comfortable) teachers would still rally and encourage the learners but that the latter, guided by the former, would choose what to study within convivial frameworks provided by the teacher. Contemporary incentives – places in prestigious colleges, praise, glittering prizes, good jobs, avoiding punishment – would give way to deeper and more personal motivations: pursuing enthusiasms, understanding aspects of the physical and intangible world, enjoying the quest for knowledge and wisdom. Accordingly, it is the learners who ‘own’ the curriculum: given their fingertip access to virtual infinities of information and legions of fellow-students, along with their unrivalled acquaintance with their own emerging interests and fascinations, it could not be otherwise (see Douse & Uys, 2018 for a deeper discussion of Digital Age [learner-owned] curricula).

Teachers will guide and provide support but they will no more determine the curriculum nor enforce their preferred pedagogy than will outside agents – universities, employers, religious leaders, politicians – interfere with content and process beyond their legitimate roles as advisors to those who play and thus control the learner roles. Whether educational processes and content should or could be neutral is by no means a new issue (see, for instance, Friere, 1963 and, indeed, Douse, 1973). What is undoubtedly new is the learner autonomy brought about by instant universal connectivity. It is the learner who now occupies the driving seat; the teacher offering guidance as opposed to direction (see Tailpiece, below) and refraining from determining the destination.

Wholly admirable educational philosophers have claimed that there can be no neutral educational process. Good and intelligent people have, over the ages and with much justification, rejected a system that “values assessment over engagement, learning management over discovery, content over community, outcomes over epiphanies” (Hybrid Pedagogy, 2013). Critical Pedagogy is an approach to teaching and learning predicated on fostering agency and empowering learners (implicitly and explicitly critiquing oppressive power structures). Some of its adherents may see pedagogy as praxis, insistently “perched at the intersection between the philosophy and the practice of teaching” (Hybrid Pedagogy, 2013). They consider that pedagogy necessarily involves recursive, second-order, meta-level work and that, on such bases, an “ethical pedagogy must be a critical one” (for example: Eichsteller & Holthoff, 2011). Teachers teach; pedagogues teach while also actively investigating teaching and learning. Critical Pedagogy suggests a specific kind of “anti-capitalist, liberatory praxis” (Friere, 1968). This is indeed good stuff.

Any yet, in this digital age, such worthy sentiments are of historical interest only. Critical Pedagogy, however defined, had a central place in the discussion of how learning was changing in the first few years of the 21st century because it was primarily concerned with an equitable distribution of power. In The Global School, just as the learner owns the curriculum, so also is the teacher’s role that of creatively supporting the learning. By all means let teachers be warm-hearted liberators – but first let the learners be liberated from the bonds of their teachers (who, in turn, shall be freed from the hegemony of educational managers, directors and ministers).

The Critical Pedagogy made wonderful sense for as long as the traditional notions of teacher as leader and of schooling as enforced regimentation persisted. With the realisation that the learner leads, and with the ending of curricula as propaganda, all else falls into line and much else – including prehistoric critical (digital or otherwise) pedagogies – falls by the wayside.

The Global School resolves and outwears the fascinating late-second millennium discussions of pedagogy by determining the ownership and nature of the process, embodying a learning methodology that is neither technology-driven nor indoctrination-targeted nor the sporadic use of some devices and systems by some teachers some of the time.

8. The Dysfunctional School

Once the transformative consequences and potential of Digitisation are understood, the task is to facilitate the utter reshaping of learning and teaching for our times, and for times to come, locally, collectively by category, nationally and worldwide. This challenge has yet to be met. Far from transforming themselves in response to, and becoming best geared to serve digital age learners and teachers, most schools, organisationally, interactionally and architecturally, remain old-fashioned forced labour factories wherein (often unengaged and sometimes unwilling) learners are (frequently inaccurately and typically inefficiently) instructed by (usually underpaid and often underqualified) teachers.

Indeed, some educational institutions across the world still exhibit much of the tradition, aspiration and culture of those expensive and exclusive boarding schools that housed the sons of the English elite, previously (and maybe, in some cases, currently) characterised by "...beasting, bullying, fagging, cold baths, vile food and paedophile teachers" –see Renton(2017) for an interesting exploration of this phenomenon. Bullying may well have migrated to social media, corporal punishment may well have been superseded by psychological controls, the exam culture may have replaced some games field humiliations but the plight of many learners remains physically and emotionally grim. When envisaging Digital Age scholastic institutions – extending to the universal school – this prior aspect of the educational reality must not be ignored.

From both national and international perspectives, education, as presently practiced, is the enemy of equity. At the slogan levels, diversity is delightful and inequity abhorred. In practice, and in educational institutions and processes everywhere, categorisation and rejection are rife: 'meritocracy', originally coined as a derogatory term (Young, 1958), is deliberately embodied in many national plans and educational practices. Enforced 'student selection' may now thankfully be discarded to the scrapheap, along with that damaging oxymoron 'educational economics'. Welcoming all learners, irrespective of background, gender, previous knowledge, age or other such factors, to the lifelong Global School offers much potential but involves getting beyond the banners and being judged by practical consequences. Creating a worldwide educational institution, with local manifestations, that is characterised by fellowship rather than fear, which is inclusive rather than categorisive, and cooperative rather than competitive, involves a major cultural transformation.

Just as any number of people may enjoy and benefit from watching a play, visiting a mountain resort, cheering on their sports team or reading a novel, so also may a multitude of learners, in various situations and locations, enjoy shared and challenging educational experiences without being graded, beaten, rewarded with trophies or held up to ridicule. Such is the pleasant, participative and purposeful educational institution that Digitisation makes feasible and essential.

9. Speak Up At the Back

In modern life, oral communication is still critical, even though typed messages, as in SMS and on various social platforms, are become more prevalent. Currently in schoolrooms it is still mostly words on pages. Mankind's most vital occupational and social skill is not encompassed by the 3Rs of reading, writing and arithmetic (perhaps 'oracy' – spoken communication – should become the fourth 'R'). Pedagogy is still attached to the pen – and, to an increasing extent, the keyboard, be it desktop or mobile – rather than to the learners' organs of speaking and hearing. While some of this is inevitable, in that what is spoken is transitory and untransmittable in comparison with that which is written or uploaded, opportunities for helping all students build up their oral communication skills abound.

As already emphasised, the internet heralds a fresh pedagogical era. Digitisation makes possible, nay necessitates, that the educational institution, whether it be set in a leafy suburb of a Western capital or in some remote ramshackle huts in the under-developed world, will embody connectivity. This worldwide linkage will be both electronic and personal – hopefully, students will be active, information and digitally literate, sharing their learning globally. Ideally, all will be vigorous players in the learning and teaching process, taking responsibility for their own knowledge acquisition. Essentially, Global School education will emphasise personalised E-learning and increasing engagement, characterised by ongoing and creative spoken communication.

The emergence of The Global School has profound curricula and pedagogic implications. A central consequence is that learners will necessarily be questioning, expressing their ideas aloud and responding clearly and cogently. Watch young people now with their ever-evolving devices: yes, they text, assuredly they snap (in the sense of taking many photographs) as they chat, but above all, they speak. And this evolving interchange reflects the emerging learning process. Education is, after two millennia, becoming oral again. The on-going international debate, involving all participants – not just the competitive few along with the vocally challenged minority – shall flourish. The Global School’s fundamental pedagogy embodies the well-informed exchanges of ideas – a mind-expanding experience and a honing of judgemental skills, eclectic, interrogative and principled –as the educational process increasingly mirrors the enjoyable oratorical cut-and-thrust (see Douse, 2017).

10. Educators in the Digital Age

The well-known World Bank originating aphorism to the effect that, while technology will not replace teachers, “teachers who don’t use technology will be replaced by teachers who do” (Trucano, 2015) appears, on the face of it, self-evident – let it now be examined more closely. Irish schools now have heating systems of one kind or another and teachers no longer need to commence their working days by lighting turf fires, as they did in earlier times, or even bleeding radiators and grappling with pre-thermostat air conditioners. Irish teachers unable to manipulate the heating systems may well be frozen out by those who can. But is that ‘using the technology’ as opposed to operating well with the self-regulating technology in background support?

Digital Age teachers will, in their training, approaches and job descriptions, differ significantly from their pre-digital predecessors. But – and sighs of relief may now be heard echoing across staffrooms worldwide – such differences are less technological and much more philosophical. As in many walks of living, a readily-achieved and confident familiarity with devices and systems will enable teachers to focus on creative approaches, individual support and class management. [And, in any case, the learners will be able to operate the equipment, set up the worldwide connections and locate the relevant evidence.]

But, as emphasised at the outset, let us not be carried away. Many teachers will tend to teach as they themselves were taught, until it dawns upon them that current generations of learners are not learning as they (the teachers) used to learn. The teachers’ task continues to be that of bringing out their learners’ potential: how to educate today’s learners (as opposed to tomorrow’s citizens and in direct distinction to next year’s workers). And this is much less a process of work-preparation and student-comparison, more one of creative stimulation and enjoyable interaction. And this no more necessitates a technical facility with the equipment’s construction than did a 20th century teacher need to be familiar with blackboard production or the chemistry of chalk (or a 19th century one with the manufacture of birchwood canes). Education will continue to be characterised by person-person relations: the machine is the medium through which such links may be extended and the catalyst by means of which they may be deepened. Indeed, virtual interaction is already becoming a major and creative element in revised learning methodologies and appropriate pedagogies, typified by internet-supported teaching and studying, active learning in child-friendly classrooms, distance education and ‘mobile learning’, all involving open educational resources; and the preservation of data privacy.

With Digitisation, the paramount investment heading is not in the equipment so much as in creating, supporting and remunerating competent, confident and cheerful teachers, deserving and receiving widespread respect and appreciation for the extraordinary work that they do, playing key facilitative roles in ‘education founded upon Digitisation’ and being effective agents at ease in the propagation of digital understanding (however that may be defined). Given the essential nature of their creative participation in these years of major transition, the recognition and full involvement of teachers’ professional organisations and representative federations is vital. The potential is there for a partnership between humans and machines, a symbiosis where each side does what it does best, with devices augmenting rather than replicating let alone replacing human intelligence. Let it be emphasised again that, in defining such a partnership, just as in all other aspects of determining digital age educators’ roles and remuneration, the full involvement of teachers unions is vital. [‘Should the machines participate in those consultations?’ is yet another topic for debate.]

Given that teaching will need to embody a constructivist pedagogical orientation, actively including learners in determining meaning and knowledge for themselves, the genuine participation of students, of all categories and most ages, is equally imperative. Just as learners will increasingly be active players in the learning process, moving from being mere consumers to taking more and more responsibility for their own learning, so also should their teachers be able to

reflect divergently across outdated ‘disciplines’ connecting ideas across the entire mass of humanity – in other words, the Global School will need teachers who can think like the youngest of their learners. Such educators, as with the increasingly self-confident and healthily sceptical learners, should experience a creative, reflective and critical involvement, not only (largely subliminally) in the technology but even more so (increasingly reflectively) in the educational process.

11. Tailpiece: The Teacher as Feature

It is apposite that this final section should embody the ‘education as entertainment’ approach as emphasised throughout this paper. It has also been highlighted that the need becomes even clearer for the teacher to act as a sort of compass amid the information flows, to lend meaning to and explain phenomena and situations: more SatNav than satrap.

Various terms and analogies have been employed in order to capture the emerging character of ‘the teacher’ (as if there were just one such creature). Not so much ‘the sage on the stage’ as ‘the guide by the side’ or perhaps ‘the goad on the road’ or maybe ‘the mentor at the centre’ or even ‘the companion in the canyon’ or how about ‘the online pedagogue with the dilettant dialogue’ or perhaps ‘the impresario with the scenario’ or, ultimately, ‘the critical friend to the virtual end’. [It may be noted that a learning concierge might be expected to provide personal advice directly to students on how they can address their own learning and performance problems in the ways that work best for them. As the only rhyme for ‘concierge’ (see below) seems to be ‘demivierge’, that particular avenue appears blocked off.]

The Digitisation of Education enables and requires teachers to fulfil dramatically altered and more professionally fulfilling roles. And certainly these competent, cheerful ‘concierges of learning and escorts to wisdom’, whose expertise is enabling rather than exclusive, have crucial and hopefully high-status roles in facilitating ‘Education founded upon Digitisation’. Other parallels might be preferred, such as that of a mentor, to call upon as required, as in counselling; or a caddy – as in golf; a soigneur – as in long-distance cycling; or a butler – as in country house. None of which is to suggest that the professional authority of the teacher is diminished, more that it is disentangled from privilege and omnipotence, based upon earned respect rather than obsequious veneration, and reconstituted of knowledge, experience and conduct. While identifying additional terms could become a popular pastime for long (maybe driverless) car journeys, no analogy, rhyming or otherwise, should ever become ‘official’, as the role will perpetually evolve.

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