

The Evolutionary Stages of Schooling

Implications for Technology Planning

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In researching those schools in the UK, US, NZ and Australia that have succeeded or nearly succeeded in normalising the use of the digital in all their operations what hit home was the time it had taken the schools to reach that point in their evolution, the magnitude of the suite of interrelated variables all have had to address in creating the desired school ecology and the reality that all moved through five development stages before achieving digital normalisation.

One is talking about that as yet rare cadre of schools in the developed world where all within the school's community - the staff, students and parents - have normalised the use of their own suite of digital technology in virtually every facet of the school's operations, educational and administrative.

They are schools where the digital technology has faded into the background and where the focus is on using its functionality within higher order teaching designed to provide the best possible 24/7/365 education for life and work in a digital and networked world.

Vitality they are schools that understand – far better than the politicians - the desired educational enhancement comes from the creation of a school ecology that simultaneously addresses a suite of interrelated variables.

The digital technology plays an increasingly important part in shaping and sustaining that school specific ecology.

While the young and indeed their parents have normalised the use of the digital in their everyday lives and today society increasingly regards the use of the digital as natural the reality is that few schools have achieved digital normalisation.

The intention of the research was to clarify why the pathfinders had been able to reach that position, why most schools in the developed world lag well behind the societal norm and what lessons could be gleaned from the pathfinders by the later adopters.

The Lessons

The first and vital lesson is that it takes time to achieve digital normalisation.

Indeed it normally takes years.

The schools studied had in general terms taken 15/20 years of visioning, astute leadership, thoughtful planning and concerted effort to reach their current position.

Moreover all the schools have been highly proactive, imbued by a culture of change and have been willing to take risks and make mistakes.

Governments, education authorities and many technology companies have fallaciously promoted the idea for decades that the digital transformation is

simple and the change will automatically occur if one implements their magic solution. The simple, but naive requirement that schools document the improvement in learning that will occur overnight after implementing the government's program perpetuates that myth.

Understand it will take all but the smallest of schools and greenfield sites years of the astute simultaneous addressing of near on 50 key variables to achieve digital normalisation (<http://www.malleehome.com>).

It shouldn't take the later adopters as long as the pathfinders but all will need time to develop a school wide mindset, culture and ecology that will facilitate on-going evolution and the desired education.

By far the greatest challenges are human. Providing the requisite technology is by comparison relatively simple. That said school after school, government after government, continues to approach the challenge by looking first at the technology.

The human challenge will naturally be greater in the larger schools and in particular the secondary sector but notwithstanding the research indicates the same kind of variables need to be addressed and the same evolutionary stages experienced at all levels of schooling, within all types of schools.

Another suite of related lessons to understand is that:

- i. all schools are constantly moving along an evolutionary continuum
- ii. every school, yours included, is at a point along that continuum
- iii. the continuum is ever evolving and lengthening
- iv. the gap between those at each end of the continuum is as a consequence widening daily.

Allied is the importance of appreciating that in moving along that continuum the pathfinders moved through a series of key developmental stages which fundamentally impacted their facility to move to the next.

In brief they had to reach a level of readiness before they could move to the next.

Governments and education authorities have, probably unwittingly, perpetuated the myth that all schools are the same, that in general terms all schools are basically the same as they were 20, 30 years ago and are fact largely immutable.

To them all schools are at the same point in their development as all others in the system. It is as if they are blind to the dramatic transformation that has occurred in all facets of the schools' operations and mindset as they have moved from the paper to digital operational mode and embarked on the path to digital normalisation.

One has only to reflect on the situations in one's local schools to recognise the ever-widening variability between schools.

In talking with the pathfinders, be they in the UK, US, NZ or Australia what amazed was the remarkable similarity of issues all at that stage of their evolution had in common. The leadership and teachers at Coal Mountain

Elementary in the US, Gulf Harbour School in NZ and Broulee Public in Australia had far in common than they have with the local schools nearby.

The other key lesson is to appreciate is that all schools will in general likely need to move through each of the key development stages before than can successfully move to the next.

At this point with the research I'd not go out on the limb and say all schools have to move through each of the developmental stages to sustain their evolution, but colleagues globally working in this area are inclined like me to suggest most will need to do so.

In brief your school has to be ready attitudinally, educationally, competence wise, technologically and financially before successfully moving to the next developmental stage.

It is appreciated a greenfield school, starting from scratch, with an astute and knowing principal who hand picks experienced staff of the right mind, could obviate the need but in general all other schools will need to experience the stages to develop the requisite capacity to continue evolving.

As will become apparent in the analysis of the development stages schools can't contemplate shifting to a networked mindset and genuinely collaborating with their parents in the teaching of the young 24/7/365 until the vast majority of the teachers are using the digital in their everyday teaching.

Similarly they can't contemplate a move to BYOT (Lee and Levins, 2012, p11) – as distinct from BYOD - until the teachers are of a mind to respect and genuinely collaborate with the parents, to trust the children to choose their own suite of personal instructional technology and the school has the apposite whole of campus Wi-fi coverage.

The Evolutionary Stages

At this point in the evolution of schooling I've identified six main development stages.

Diagram

The transformative Digital Normalisation stage has only come on to the radar this year, even though there were strong signs in 2012 of its emergence.

The stages are a construct designed to assist schools with their planning and development. They have emerged after noting the remarkably similar features of the journeys of all the pathfinders studied. The indicators within each of the stages are intended as a guide, full well recognising that in different situations a particular development might come earlier or later.

Conscious the clarification of the stages needs to be an iterative process the latest version of the evolutionary stages can be found on my blog at <http://www.malleehome.com>.

On the blog I've also:

- a. graphed the major evolutionary issues schools and their communities need consider
- b. identified near 50 key closely interrelated variables that all the schools that have or nearly have reached the digital normalisation stage have addressed in their journey.

The Stages and Indicators

The following is an abridged version describing simply the stages and including but a selection of the key indicators of each stage.

The full version can be downloaded at <http://www.malleehome.com> and the more detailed analysis will be found in the forthcoming publication of *Digital Normalisation and School Transformation*.

In considering the below it is important to appreciate all the schools displayed an excellent understanding organisational change, with all throughout the stages being highly proactive, consciously seeking to foster a culture of change and understanding the imperative of the leadership being politically astute.

Traditional paper based stage

- Test focus
- Culture where the professional educators unilaterally control the teaching
- Organisationally and teaching wise school's operations strongly impacted by the use of paper technology
- Highly insular in outlook with educational professionals unilaterally controlling all facets of the teaching and learning
- Paper, pen and the traditional teaching board the dominant instructional technology
- Control of the digital by ICT experts in school
- Loose nexus between school's educational agenda and deployment of the technology
- Digital and website usage peripheral to school's teaching

Early Digital Stage

In using the term digital in this and the next phase I'm referring to the movement from a paper to digital operating base and the concomitant changes that occur both attitudinally and operationally within the school with that shift.

- Apposite shaping educational vision for digital and networked world
- Desire – often unwitting - to move from paper to predominantly digital teaching base
- Recognition each school, with its unique setting has to shape its own evolutionary solution
- Focus still insular - on using digital within school walls
- Appropriate suite of digital technology in every teaching room
- Deployment in each room of an easy to use whole of class presentation technology – such as an IWB or data projector - that enables teachers to transition from paper to digital teaching mode

- Critical mass of teachers using the digital in everyday teaching
- School's administration largely digital
- Ever rising expectations by teachers using the digital in teaching
- Significant in house professional development

Digital stage

- All or nearly all teachers using the digital in their everyday teaching
- Whole school in class digital usage coupled with digital administration begins moving school from paper to digitally based operational mode
- Concomitant shift from constancy to on-going evolution, change and natural growth
- Insular mindset still dominant
- Increasing moves by staff to extend the education beyond the school walls
- Digitally empowered parents and students seek greater voice in school's use of the digital
- The shift to a digital operational base and digital convergence occasions ever-greater organisational and operational integration
- Significant home-school educational and digital divide
- ICT team responsible for choice, control, configuration, deployment maintenance and replacement of all hardware and software
- School – or school using parent monies – funds all digital technology used by school
- Moves to ensure all students have ready usage of/ access to personal computers
- Standard operating system, instructional technology and applications software
- All other technology banned
- Closed, password protected school website
- On-going in house staff development

Early networked stage

In this and the next phase I'm referring to the transformation that occurs when schools reach the evolutionary stage where they recognise that their digital and networked facilities removes the school's long-term reliance on students attending a physical place for learning and the necessity of operating as a largely insular organisation.

They now begin to recognise the plethora of opportunities for human networking, and genuine collaboration with all the teachers of the young from birth onwards.

It recognises the physical networks open the way for ever-greater and more effective human networking.

- Principal/school leadership promote the provision of a holistic C21 networked, ever more collaborative education that transcends the physical school walls
- Growing leadership/teacher recognition of extent and impact of the young's normalised 24/7/365 use of the digital upon learning outside the school
- School evermore aware of the natural growth and evolution flowing from its going digital
- Dismantling of internal school walls and adoption of more integrated school ecology
- Staff adopting networked mindset
- Increasing teacher recognition of the educational opportunities for networked collaboration
- Escalating collaboration between school, its homes and community – with school taking the lead
- Willingness of key staff to begin distributing control of the teaching process
- Pooling of home and school educational expertise and digital capability
- Concern for equity
- Move to more collaborative mode of teaching that puts learner at centre
- Growing empowerment of all staff, teaching and support
- Areas of rapid and pronounced change impacting upon whole school ecology
- Change seemingly chaotic, spotted and non-linear but indeed common globally within schools at same stage of their evolution
- Moves to ensure all students have ready usage of/access to personal computers
- Enhancement of Wi-fi networking and bandwidth
- Shift from paper based to digital communications with home and community
- Increasing centrality of a core, working school website
- Schools seeking to make greater use of online and networked teaching

Networked stage

- Leadership committed to providing an internationally competitive, holistic 24/7/365 education for life and work
- Staff adoption of networked mindset
- School operating within networked paradigm where it reaches out beyond the school walls in its educational quest, begins dismantling the old walls and increasingly questions past practises and seeks to involve all the teachers of the young in the education of the children
- Positioning of the school to readily accommodate change and sustain the desired evolution
- Continuing development of tightly integrated school ecology that embraces the in and out of school contributions and learning
- Emergence of networked learning community that increasingly integrates the in and out of school student learning
- Escalating empowerment of and trust in professionalism of all staff

- Desire to use the digital in all operations to enhance effectiveness, efficiency, synergy and productivity
- Tightening nexus between the schools shaping educational vision and its use of the digital technology in the school's community
- Escalating collaboration between the school, its homes and community
- Pronounced school wide shift to more collaborative, networked and personalised mode of teaching
- Networked resourcing where the school pools its resources and expertise with that of its parents and community
- Escalating use of parent and community resources in addition to those provided by government
- Distributed control of teaching among all the teachers of the young
- School's digital technology leadership focussed on facilitating ready Net access and use by all within the school's community
- Digital technology and Net core to all the school's operations
- School's website has been opened to all interested and is central to the school's operations, teaching, communication and on-going development
- Willingness to move to a position of trust and respect for the children and their homes
- Preparedness to accord children responsibility for choosing own suite of digital technology that want to use in class
- Embarkation on strategy to normalise the total in class use of the students own choice of technology

Digital Normalisation

Entails all the key players within the school's community – the students, parents, teachers and support staff – using their own choice of digital technology naturally in all the school's operations, teaching and administrative, to the extent they rarely give thought to the actual kit they are using.

The focus is on the functionality and not the tool.

It recognises that a suite of ever evolving technology will be used 24/7/365 in all facets of the people's lives – and not simply for education, and that in using the technology everyday all will teach themselves its workings and position themselves where they can use the apposite functionality when required.

What is already becoming apparent is that it will only be when schools reach this stage, and create the desired school wide ecology will we finally see

- a significant widespread change/enhancement in pedagogy
- schools finally providing an education apposite for today's world
- schools positioned to evolve at a pace in keeping with society's ever-rising expectations and technologies growing capability.

The first of the phases to appear is

Early normalisation

- Digital used as a natural part of all school operations by all within the school's community
- Student use of their own technology in classes is normalised
- BYOT as a term drops from the operational vernacular
- School factors recognition of out of school learning into its everyday operations
- Mechanics on the workings of the student's suite of technology no longer taught by the school – student responsibility
- Use of student's digital functionality in higher order teaching

Conclusion

What also resonated in analysing the operations of the pathfinders was that each took it upon themselves to shape the desired future.

Most had little meaningful support or direction setting from their education authority or government.

A few lucky ones did.

All recognised it has to be the individual school and its community that has to make the move.

Top down efforts to change will continue to fail.

If you want to position your school where it can evolve at pace in a sustained manner heed the lessons of pathfinders and focus your 'technology planning' at achieving the desired human and cultural change.

The rest will then come easily.