

Re-Framing Initial Teacher Education (I.T.E.):

A 21st Century Imperative

The current concern

This article is about change. Changes in circumstances, perception, knowledge, skills and understanding. The nature of change is such that it has been said, “change is the only constant in life”¹ and most people would accept that change is unavoidable. What we know today as ‘fact’, was yesterday’s heresy, fantasy, idea or hypothesis, and tomorrow it will be viewed as part of our history as new circumstances, experiences and perception shape the ‘facts’ of the future.

Most change occurs quietly, almost imperceptibly, so much so that we do not consciously note it as change eg. daily life routines. At other times, it can be dramatic, chaotic and emotional eg. birth, death, relocation, etc. In between these two extremes, there are times when, as individuals and as a society, we begin to recognize that something is going on that unsettles our sense of ‘habitual complacency’. In the first 20 years of this new century, an emerging set of global challenges has fueled a sense of impending change. This growing sense of ‘unease’, some would say urgency, reflects the need for an evolutionary shift in how we perceive and interact with both the social and natural environments we inhabit.

Given the central role that formal education plays in the on-going evolution of society and the mechanisms by which we provide for and maintain both our physical and social existence and well-being, it seems pertinent to re-examine the ‘facts’ of our current educational theories practices through the ‘lens’ of an emerging set of new and challenging circumstances and experiences that will shape the rest of this century.

If we accept that formal education is a critical component of social evolution, then the role and impact of teachers of formal education are clearly critical components of the process of learning. Of course, there are many other supports required to maintain and develop the teaching process, but these are secondary to the potential influence that each teacher has on their students because we are at the ‘front line’ of the learning experience of each and every decision maker of the next generation.

As a classroom teacher (primary) I, like many of my colleagues feel the weight of responsibility and the frustration of working within a system that is obsessed by the collection of data (in an admirable attempt to identify what students are and are not learning) yet does not seem to ask a single, serious question regarding the underlying structural change the world has been undergoing over the last 50 years, or so and how that may be having an impact on educational outcomes for Australian students.

Teachers haven’t stopped trying to provide the best quality educational opportunities for their students, students haven’t stopped coming to school, but as international educational assessments have been showing since the beginning of the new century, educational outcomes (for reading, mathematics and science) in this country have been in decline.²

Overall, Australia’s students are certainly not the worst performing students within the 79 country P.I.S.A. assessment program and in fact, we are significantly higher than the average for all OECD countries, but the real concern is that educational outcomes for our children have been in decline for the last 18 consecutive years.³

In response to this on-going concern, national, state and territory governments have implemented ongoing teacher professional development; more rigorous teacher professional standards; increased reporting requirements; increased planning and curriculum development support materials and a greater focus on pre-service teacher training. These are all good things in their own right but they are focused on simply 'tweaking' the same system of educational theory and practices that formed the basis of education more than a century ago. What we have a problem with, is not so much the teachers and the students, it is with a system of formal education that has outlived its usefulness and as such is becoming a 'dead weight' around the necks of a profession that should be at the forefront of change.

Some history (sort of)

In my own attempt to rationalize the dilemma of delivering a 19th century educational model to 21st century students I looked back at the history of 'Western' education. During this time I found that many people had already asked (and answered) the questions I had (no surprise there!). There have been and continue to be a number of educational visionaries. From Jean-Jacques Rousseau (1712-1778); Johann Pestalozzi (1746-1827); Friedrich Froebel (1782-1852); John Dewey (1859-1952); Maria Montessori (1870-1952); Jean Piaget (1896-1980); Seymour Papert (1928-2016).⁴ Interestingly, all of these significant figures in education shared a common belief that knowledge and understanding needs to be constructed through the collective and on-going discourse and experiences of teachers and students and students and other students. This is the basis of the 'constructivist theory' approach to education that many of us adhere to today. I would also like to add the work of David N. Perkins (Harvard Graduate School of Education) who has written a number of, (I think) visionary books that provide valuable insight into what he calls 'lifeworthy learning'.⁵

So, what went wrong?

If the list of educational visionaries from the 18th Century up to the present time have given us a broad 'roadmap' for constructing a worthwhile education system, how have we arrived at our present dilemma? In trying to answer this and having a background in Sociology, I started to think about the broader social development issues that covered the same time periods and in my musings, I began to identify the economic development priorities of the times and this led me to the relationship between educational models and economic models of society. Indeed, the March 2018 Report of the Review to Achieve Educational Excellence in Australian Schools (aka Through Growth to Achievement) produced by the Australian Government states the following. "... Australia needs to review and change its model for school education. Like many countries, Australia still has an industrial model of school education that reflects a 20th Century aspiration to deliver mass education to all children. This model is focused on trying to ensure that millions of students attain specified learning outcomes for their grade and age before moving them in lock-step to the next year of schooling.

It is not designed to differentiate learning or stretch all students to ensure they achieve maximum learning growth each year, nor does it incentivise schools to innovate and continuously improve. Although this problem is widely recognized by teachers and educators, schools' attempts to address the issue are hampered by curriculum delivery, assessment, work practices and the structural environments in which they operate."⁶

In an attempt to explore this relationship between education models and economic models I played around with a comparison of significant changes in how, as a species we have developed over time. The figure at the end of this article (see Appendix 1) is what I came up with while developing a nature-based teaching program with my year 5/6 class. I would like to point out from the start that this is in no way a scientific or formally researched idea. It is just something that helped me to more fully explore the idea of a fundamental education-economy relationship. What the figure did reinforce, was that throughout human history, our approach to education closely follows the way we do things to survive. In economic terms, we could say that our education system mirrors our mode of production.

One thing is clear, our current education model is intrinsically associated with a linear, industrialised and mechanical model of economic development. It is in essence a 'production line' approach to education where we put our children on the 'conveyor belt' of school, moving them along, year by year (note our 'grade' level classification system). The mechanical model worked well in an economic environment that saw in the industrial revolution. The problem is that our economic model has now changed, and we are facing the next major shift in our economic development – the technological revolution. This in turn will require a new educational model to support the changing economic and environmental conditions we are now facing.

What has this all got to do with Initial Teacher Education?

For those of us who have been teaching over many years, we have seen a seemingly, never-ending series of innovations, approaches, resources and training. We have heard of, seen and been instructed by a lot of education experts and to be honest, there is a lot of good, research-based advice about how we can make education more relevant for these new times, but the reality is that 'on the ground', nothing really seems to change. So, what is the problem and why can't we change, especially when we all (sort of) agree that we need to change. I think that part of the problem lies in what the 19th Century sociologist, Max Weber described as the 'bureaucracy', that most pervasive system of organization that seems to reign supreme, especially in government organisations. One definition is, "Bureaucracy is an organisational structure that is characterised by many rules, standardised processes, procedures and requirements, number of desks, meticulous division of labour and responsibility, clear hierarchies and professional, almost impersonal interactions between employees".⁷ Now Max Weber was a big fan of the bureaucracy (but I don't know if he ever had to work in one). The thing about bureaucracies is that they change very, very slowly and the education 'system' like any bureaucracy displays a significant 'time lag' between how we organise our teaching and the latest in pedagogical practices. This seems to be true at all levels of education, from primary school through to university.

Of all these levels of education, I believe that our best chance of implementing large scale, generational change in teaching for the 21st Century lies in the re-framing of Initial Teacher Education programs. Waiting for existing individual teachers or small clusters of teachers to implement fundamental changes in their theoretical and pedagogical thinking and teaching behaviours will never happen at a rate fast enough to re-dress our failing educational development.

There needs to be a fundamental re-organisation of Initial Teacher Education programs that enable the next generation of teachers to move into their chosen profession with the mindset, knowledge, skills and understanding that will drive a new educational/economic and environmental model based on an information rich, systems/network, values and action, based approach to learning. The challenges for future generations are unlike anything previous generations have had to contend with. Over the rest of this century, much of the existing educational system will need to be dismantled and replaced with alternative thinking, communication, problem-solving and resource management skills. Educating our children to be part of the 'industrial/production line' era of human development is over and much of the burden for leading the 'future-proofing' of our society through education, will fall on the shoulders of our teachers. We owe it to them and to future generations to rapidly reform pre-service teacher training in ways that mirror the ways 'learning for the 21st Century' requires.

How do we go about doing it?

The need to improve Initial Teacher Education is obviously a topic that is of primary interest to government and institutions that provide I.T.E. services. There have been numerous reviews, reports and papers concerning improving the quality of Initial Teacher Education programs over the last 18 years,⁸ but our PISA ratings seem to suggest that not a lot has changed with regard to teaching outcomes.

The most recent review launched on March 11th 2021, highlights this on-going concern. The Quality Initial Teacher Education Review Discussion Paper cites the reforms of the Teacher Education Ministerial Advisory Group (TEMAG) and while they are all valid and necessary improvements there was no mention of the required change to pedagogical practice and the transition to a 21st Century learning focus that I.T.E providers need to make to ensure that the next wave of teachers can deliver the new education programs required to not only lift our international standing but more importantly prepare the next generation of citizens and leaders.

There are a number of practical strategies that I believe could be implemented as a way of bringing a new education model more in-line with our burgeoning economic model and environmental challenges. These are loosely grouped into 5 categories.

Mindset/Dispositions

- pre-service teachers should be expected: 'to be the learners they wish their students to become'. They should display the curiosity; the effort and persistence; the willingness to step outside their comfort zone and the commitment to new learning themselves in order to model the essential elements of successful learners to their students.

Knowledge

- pre-service teachers should be expected: to demonstrate discipline rigor in the essential curriculum areas of English, Math, Science and Technology. Each discipline has an internal logic that needs to be made visible to students in order for them to identify the underlying patterns, concepts and procedures that draw the different threads of discipline knowledge into a meaningful totality.

Skills

- pre-service teachers should be expected: to spend longer, more frequent periods within real school environments. The current ratio of university time to actual school time is back to front. Less time on the theory, more time on the practice. The new norm should be that they spend most of their learning time in school as an opportunity to implement and develop/refine their theoretical learning.
- Their theoretical learning program should emulate the pedagogical and behavioural practices they will be expected to provide to their students, in order for them to gain some insight and personal connection to what their teaching will feel like from their student's point of view.

Understanding

- Armed with core discipline knowledge it is possible to develop a more integrated approach utilising the general capabilities and cross-curriculum priorities within the Australian Curriculum. This is the 'heart' of learning in the 21st Century. Just as the overriding force of the technological revolution is based on information, systems and networks, so our approach to learning needs to be based on systems thinking, collaboration and creativity. Understanding is necessary if we are to reach the 'holy grail' of teaching, the 'transfer of knowledge' to unknown situations and problems.
- This is the area that requires the most support as it by necessity means the re-organisation of learning programs, timetables, resources and instruction. Something that current teachers seem to really struggle with. It is imperative for all new teachers to be proficient in this new pedagogical practice.

Planning and Assessment

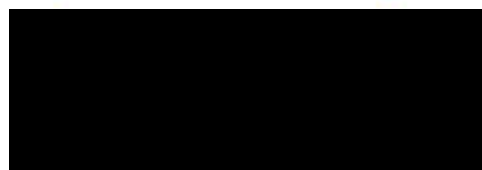
- Good planning is an essential part of most endeavours in life, and in education in particular, as the range of variables within a class can be a bit overwhelming. Catering for individual learning needs and their progressions; meeting the social and emotional well-being of your students; managing the dynamics between students; ensuring that your students have some meaningful input into their learning; ensuring that every student understands what the focus of the learning is and why they should be interested; providing a range of entry and exit points for students; collecting the necessary resources required for a task; explicit teaching of core elements of the task and formative feedback during the learning session and that is only if nothing else goes wrong! So yeah, planning is important, but the planning I see pre-service teachers bring with them is unrealistic (in the long run), especially if they are operating from a 5-6 lesson a day program. The reality is that they might submit their lesson plans during placement, but I would suggest that once they are in their own class, that process will quickly 'go out the window'. For everyone's sake, there needs to be a more efficient way to plan. This should be a major study area during their course.
- Assessment is also a fundamental requirement, and it needs to be carried out with purpose and the data needs to lead to some management decision that will support teaching practices and student improvement. The development of the Online Formative Assessment Initiative should provide a useful tool for pre-service teachers (and current teachers) to develop their formative assessment skills. Summative assessment is simple to administer for assessing movement within given parameters, eg. pre-post task tests. Its primary value lies in data aggregation and more broad brushed analysis. Generally, this is seen as more important to leadership than classroom teachers, but we do it because we have to.

Conclusion

The world is changing, and the challenges we are facing are systemic, long term and critical to the perpetuation of civilisation as we know it. We are experiencing the beginnings of a new phase of human existence and just as we require a new way to provide the essential elements of life, we require a new way to adequately educate coming generations in ways that make their continuing existence viable and hopefully prosperous.

Unfortunately, we do not have the optimism, resources or social systems to greet this new epoch with enthusiasm, and this is an indictment the current generation must bear. Education (both formal and informal) has always been central to successful human development and now it may be more important than ever. This is reason enough to make some bold changes to Initial Teacher Education programs. As previous reviews have noted, there are a range of changes that can support improved I.T.E programs but it is at the core of teaching that the most significant changes need to come. We require a new pedagogical framework to be instituted in our university education programs that will fundamentally alter the notion of teaching, in a way that better reflects the new era of human development. If tomorrow's teachers are not adequately prepared for the changes their students (and themselves) are going to face, we will have failed to discharge our duties as the guides of humanity.


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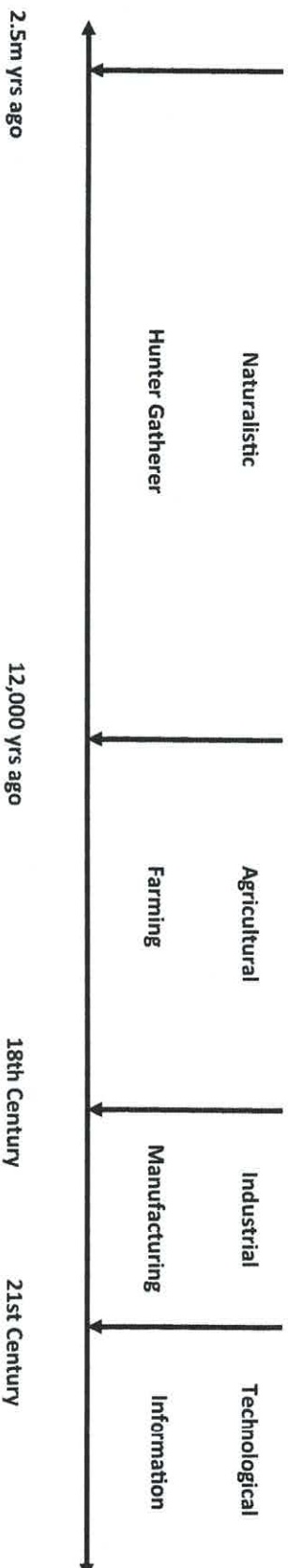


Endnotes:

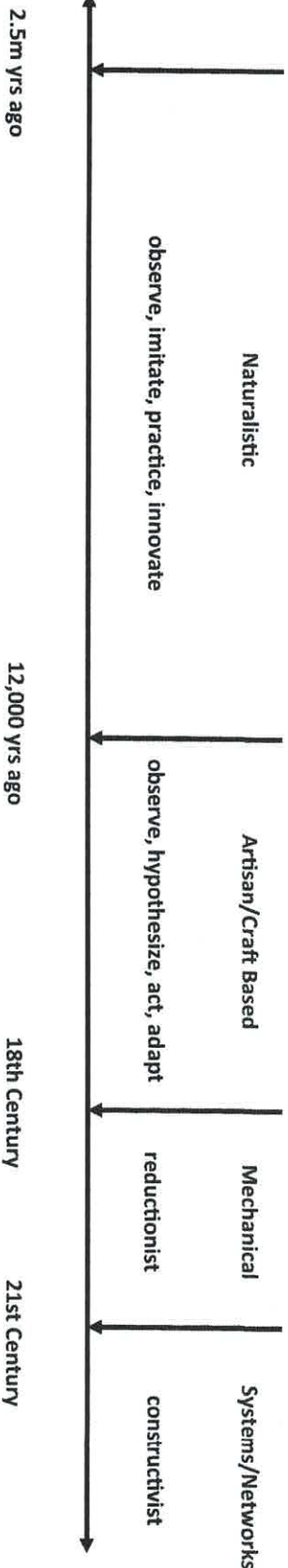
1. Heraclitus. <https://www.reference.com/world-view/said-only-thing-constant-change-d50c0532e714e12b>
2. Australian Council for Educational Research. *PISA in Brief: Student Performance*. 2019
3. *Ibid.* page 7.
4. Sylvia Libow Martinez & Gary Stager. *Invent To Learn. Making, Tinkering and Engineering in the Classroom*. Constructing Modern Knowledge Press, 2013, pages 12-18.
5. See, David N. Perkins. *Future Wise – EDUCATING OUR CHILDREN for a CHANGING WORLD*. Jossey-Bass, 2014.
6. *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools*. Australian Government, 2018, page ix.
7. Bureaucratic Theory by Max Weber. <https://www.toolshero.com/management/bureaucratic-theory-weber/>
8. These include the following:
 - The Quality Initial Teacher Education Review-Discussion Paper. April 2021, (in progress).
 - Teacher Education Ministerial Advisory Group. *Action Now: Classroom Ready Teachers*. February 2015
 - Accreditation of initial teacher education programs in Australia-Standards and Procedures. Australian Institute for Teaching and School Leadership, 2019.

Education-Mode of Production Historical Relationship

Mode of Production



Education Type



Ecological Impact:

part of the natural world

challenge the natural world

dominate the natural world

save the natural world ?