

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900

Open access books available

186,000

International authors and editors

200M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



A Different Kind of Teacher for a Different Kind of School

John Fischetti

Abstract

The current 'old school' paradigm of teaching and learning is based on students sitting passively in rows, completing a required syllabus in the order they are told to do so, and with very little choice. Assessment systems sort children and reinforce the status quo, promoting learning for 'some'. In the 'new school' paradigm, schools will no longer be places young people go to watch their teachers work. They are learning centres, with student engagement at the forefront and personalized approaches focussing the instruction on the needs of the learner. In this dynamic learning environment, a new approach to classroom and school leadership is vital. The implications of learning for 'all' are profound for teacher education. Schools of Education mostly place our students in schools as they are, not in schools as they need to be. That means we are replicating and perpetuating obsolescence. In this chapter, I offer a conceptual rationale for the change ahead and propose an internationally developed framework for teacher education to cut across the silos of individual states and provinces governed by individual regulators but where practices may not necessarily be driven by the knowledge base. The work is centred on implementing a Deweyan philosophy of education. We need a different kind of teacher for a different kind of school.

Keywords: educational transformation, equity, personalized learning, school engagement, teacher education

1. Introduction

We are on the precipice of a massive transformation of schooling and the assumptions around the education of children in the world. The current 'old school' paradigm of teaching and learning is based on students sitting passively in rows, completing a required syllabus in the order they are told to do so, and with very little choice. Assessment systems sort children and reinforce the status quo, promoting learning for 'some'. Obsolete uses of the normal curve ensure success for about 30% at a time when we need approaches to enable the success of all young people. This assembly-line approach to schooling too often sorts students early on based on societal socio-economic gaps or on educators' failure to adapt the learning environment to meet individual learner needs. As an example, currently at least 40% of Australian students are disengaged from their schooling [1]. This disengagement is a failure for the individuals and a tragic loss of human capacity for a country to be relevant in the 'innovation age' where critical thinking, problem solving, adaptive reasoning and collaboration are core skills. In the 'old school' model, leadership is more management than transformative. And, in teacher and leadership education,

we are too often preparing our new teachers for the schools we are holding onto rather than for the schools we need.

In the 'new school' paradigm, schools will no longer be places young people go to watch their teachers work. They are learning centres, with student engagement at the forefront and personalized approaches focussing the instruction on the needs of the learner. Emerging virtual reality and artificial intelligence systems (immersive technologies) will require the reinvention of content delivery and leapfrog pedagogies to new frontiers of exploring and mastering ideas and knowledge. Students in this new school approach are at the centre of the learning as they accomplish the syllabus in ways that work for each of them. Assessment from here will be formative and used to modify instruction to meet the needs of learners in real-time. That is equity in action, with learning for all as a goal.

In this dynamic learning environment, a new approach to classroom and school leadership is vital. Leadership for old school approaches was primarily management with a mission statement. In new school approaches, leadership is a complex, dynamic empowerment process. The individuals who drive education forward from here—from the classroom to the school to the boardroom—will need a new set of skills to help them create the learning environments that empower every child for success and embrace the culture and expectations of the community as vital partners in the process.

Currently the traditional curriculum and the syllabus derived from it tend to drive teaching and learning. This leads to mostly teacher-focused schools. It reinforces compliance, passivity, old school assessments and rules. Alternatively, models such as Big Picture design starts with a focus on learner passion, community engagement and authentic evidence of student learning mapped to highly benchmarked national learning outcomes. This approach is creating a new role for teachers and schools.

The implications of these changes are profound for teacher education. Some of the content of teacher education is rooted in preserving syllabus-driven didactic teaching and passive compliance-based regurgitation of low level facts by learners. Schools of education typically place students for their practica in schools as they are, not schools as they need to be. That means we are replicating and perpetuating obsolescence.

In this chapter I offer a conceptual rationale for the change ahead and propose an internationally developed research-based framework for teacher education to cut across the silos of individual states and provinces. These silos allow teacher education programs to show evidence they each uphold local/national standards that appeal to regulators. However these silos may but may not promote current research or best practices in learning and teaching. The work is grounded in the premise and promise of John Dewey. Here we are 100 years later attempting to push back at massive industries of assessment and accountability and looking to finally see Dewey's philosophy and vision realized in the concept of success for all.

2. An overview of teacher education

College and university-based teacher education programs vary considerably by size, region, student body, nature and focus of curriculum, talent of instructional staff, status within home institution, balance of coursework and practice, relation with local district, and more. Some are excellent, some are good and experimenting with ways to get better, some are weak in some respects but decent in others, some are marginal and poorly run. The language of the current criticism of teacher education, at least the most public language, does not allow for this variability. Ministers of Education throughout the Western world continue to dismiss teacher education and put in place new policies and regulations aimed at changing the face of who

comes into and out of teacher education programs. The bottom-line message: Teacher education is a disaster [2].

How did we get to this so-called and falsely perceived disaster? In the United States, the evolution of teacher education as a professional endeavour has been a bumpy journey from requirements that teachers 'will bring a bucket of water and make their pens carefully' [3]. The current assumption for candidates coming from university-based teacher education is that they are fully-credentialed reflective practitioners who personalize education for all students and who serve as learning scientists from day one on the job. It was John Dewey who helped transform the assumptions of the role of a teacher in our society.

He must, if he is an educator, be able to judge what attitudes are actually conducive to continued growth and what are detrimental. He must, in addition, have that sympathetic understanding of individuals as individuals which gives him an idea of what is actually going on in the minds of those who are learning [4].

2.1 A contradictory last century

Over the last hundred years or so of western culture, we have evolved as a society in contradictory ways to Dewey's vision of where education might lead us. The contradictory expectations of teacher education mirror the contradictions of the world itself. With scientific advancements from the airplane, the cure for polio and the Internet, human kind has never had more opportunities than the present time to control the world around us and to advance the causes of equity and justice, particularly through education. In that same last century, we saw horrible people do horrible things, including Stalin, Hitler and Pol Pot. The United States is the only country to have used nuclear weapons and today rogue regimes gas their own people. During this time Western schools, for the most part, have remained remarkably the same and the credentialing of teachers has been evolved in increasing regulatory requirements, including new entrance and exit processes and increased pressures on licensure bodies to ensure the positive dispositional nature and clear criminal record of initial teaching candidates.

The contradictions reflect a hurried culture as much of society is caught up in things that are fast and easy. Today the 'McDonaldization' of the 'fast' (food, news, social media, packages) has, among other things, led to increasing obesity and cardiovascular disease rates for the most vulnerable. Advances in research and technologies allow many of us to live healthier and longer lives than ever before, while Type II Diabetes is increasing in the most vulnerable populations in the west. In spite of billions spent on closing academic achievement gaps between the wealthiest and poorest among us, economic and opportunity gaps have increased. In addition, it led to an increase in short-cut teacher education programs fuelled by anti-government school sentiment and a for-profit mentality. Teach for America and its sister organizations in the UK and Australia are part of that massification movement. Now some want their teachers as fast and as cheap as their burgers, perhaps as long those microwaved teachers do not teach their own children.

Education in that 100 years has created a sorting pipeline where the system deliberately worked to ensure that about 30% of any of us who started school would be successful in our formal schooling and accomplish post-secondary degrees. Large testing regimens were developed to assist in the sorting, using the normal curve and new-fangled psychometrics as the basis of the decision-making process. For example, the Intelligence test (IQ) first developed in France, the Scholastic Aptitude Test (SAT) used to admit students to universities in the United States and the Australian Tertiary Admissions Ranking (ATAR) in Australia actually sort high

school graduates based on pre-determined assumptions of knowledge and future success. This is a perpetuation of the assembly-line education system. The system is still built on the assumption that 30–40% of us will finish school with the wrote memory skills and test-taking accuracy to be selected to tertiary education. It assumes another 30% or so of us will complete secondary school with ‘good enough’ literacy skills to be successful in the workforce and about another 30% will not survive the syllabus-driven compliance-based system, and either marginally drop in or just drop out. This last group tended to be destined to be the lower-level employees needed to support the materialistically-driven and profit-driven capitalist economy.

Failed educational policies that have been floating around between the United Kingdom and the United States have influenced the initial preparation of teachers [5]. They have impacted curriculum, instruction, assessment and teacher education. These include the implantation of higher standards for schools followed by high stakes assessments of those standards. They have included the infusion of so-called twenty-first century learning techniques, increased rigor and new tests for initial teachers upon entry and exit from their programs. Most of those policies, including the No Child Left Behind legislation of 2002 in the United States have led to increasing achievement gaps and further erosion of equity-based goals.

We have come to a time where there is almost nothing to ‘do’ to support one’s family with a ‘middle class’ life if you are in a low-skill, low-education-related job. Most of these kinds of jobs have been or will be automated. In Hangzhou, China, in 2017 Jack Ma opened a market where no one except security works there while they are open. Through the app-based interactions, customers are automatically billed for their purchases as they put them in their shopping bags and head out the door. The store is staffed to stock shelves after hours, and that is it. This type of innovation is very exciting if you like new apps. It is very scary if you work in a store. The skillsets needed to be successful require a teacher education that is transformed to this new reality that there is very little to ‘do’ if you are not well educated.

We have a moral, social, economic and political obligation to get everyone to reach their highest potential and for them to have the opportunity to lead inspired lives. The overall happiness and health of our citizens is an economic savings in the level of social welfare that is *not* needed when people are well educated. Proper educational attainment gains directly influence the success for at least two generations beyond the current one in school. For young people today who are undereducated, there is very little to do. Continued economic and educational divides perpetuate social inequities. These economic gaps are widening and social upheaval threatens democracy. If anything has been a disaster (as discussed in the Rose quote above) in the education of teachers it has been the mixed goals we have for the education of our children. Are schools for promoting the common good? Are classroom teachers responsible for creating positive learning environments or for improving test scores? Should we differentiate for the needs or learners or have them conform to the lesson the way it is narrowly implemented? The ‘disaster’ Rose confronts above may be why many education students relay that they receive conflicting messages that our new teachers face as they enter schools in their required field experiences or practica. Many hear from experienced teachers that they should forget everything taught on the university campus and take on board mostly what they see and learn in the ‘real world’. Yet, other novices report that they are involved in amazing partnerships with schools, universities and communities committed to equity and student engagement in learning connected.

There have been more than 100 reports critiquing teacher education in Australia since the 1970s and almost as many in the United States and the United Kingdom. These reports led to new tests and more accountability standards and measures of teacher behaviours.

Today we have a regulated profession that has not necessarily changed the content of what is taught as much as developed a 'tick box' compliance process [6].

We need a major revamp of teacher education from the inside out that actually changes the model to provide all children with the education that is right for them.

2.2 The implications for schooling, teaching and teacher education

When I was in school in the 1960s and 1970s, teachers typically had one lesson plan for each class, one textbook, one method of note delivery (chalkboard), one pedagogical approach (they talked), one style of seating arrangement and one discipline strategy for the whole class. My classmates and I were expected to adjust to the teacher and the plan not the other way around.

'Differentiation' at that time was primarily for those identified with moderate to profound special needs, who were typically taught by special teachers in special classrooms down separate corridors of the school [7].

This was assembly-line education. Many of us did quite well. Some of us dropped in. Some of us dropped out. It was understood that if you worked hard after you left school, even if you dropped out, you could anticipate a pretty good job in the mill, the mine or the shop.

Teacher education grew out of these assumptions of 'training' for the assembly line in a two dimensional (2D—'sit and git') education world.

For too long schools have been places young people go to watch their teachers work. They have relied on a deficit model of learning and teaching [8]. They have emphasized conformity rather than personalization. And today, in many parts of the world, they still mirror factories while the 3D printer is replacing the assembly line.

Scientists are now aware of at least 10 dimensions [9] that we must comprehend in a very dynamic, collaborative, global innovation age. Although many of us performed well in the 2D (sit and git) model, those who were unable to adapt to it have very little to do today.

Many jobs available in the past for those who did not finish school have been outsourced or automated, and more will be in the near future. We cannot afford economically or morally to continue a 2D mentality for schooling [10].

2.3 The global learning equity network

Current standards for initial teacher preparation across the western world are remarkably the same [11]. They are really organizers of evidence that new teachers and their programs must assemble inside these agreed-upon categories. Unfortunately, they are built on and support a model of learning and teaching that is nearly obsolete. We actually have very little evidence that graduates of teacher education programs use what is taught to them 3 years into their teaching. This has to change [12].

In response, academics and educators across New Zealand, Hong Kong, South Africa, Canada, the United Kingdom, the United States and Australia have devised five new guiding questions or frameworks for teacher education [13]. They helped us create a global conversation to benchmark teacher education internationally rather than in individual states, provinces or nations.

The frameworks evolved from conversations with leading scholars in the interdisciplinary fields.

The Global Learning Equity Network (GLEN) aims to reinvent teacher education in the field of learning science and reinvigorate the profound role teachers play in addressing issues of equity and student success.

Our cloud-based Learning Equity Research and Resource Centre [14] hosts current and leading resources in scholarly and applied research on learning equity in emerging knowledge bases such as:

- psychology
- neuroscience
- cognitive science
- technology
- equity
- special education

Most teacher education programs in the world are remarkably the same. Programs are regulated and states, provinces, shires or countries in which the states for example create organizers or standards for which teacher education programs are accredited and where panels and external reviewers determine that they are actually going well. The issue with this form of validation process is programs are surprisingly very similar right now. In an effort to please regulators by complying to standards, the scope and the sequence of teacher education are more the same than different.

The standards have created a vertical set of silos in which programs operate in isolation but with remarkable similarity and with little evidence of embedding best practice. We propose a new way to think of an international scheme for teacher education with horizontal research-based conversation across the world. Because of the imperative that we get education right for every child and that each learner is successful, the relevance of the content of teacher education programs more than mandated entrance and exit requirements from above is vital. The fears of many policy makers are related to the ‘quality’ of who is coming into teaching and the level of readiness of those exiting programs. The amazing knowledge bases that are driving a whole new approach to learning sciences outside of education are almost silent in the regulator mandates and new screening requirements put in place to safeguard from ‘dummies’ entering teaching. GLEN has developed the following frameworks to promote the two most important aspects of schooling in a free society—learning and equity.

2.4 Five new frameworks to drive the reframing of teacher education

Our resource centre facilitates the evolution of international frameworks to guide teacher education toward *learning education*. Each of our GLEN frameworks provides the latest key research for that area, as well as examples of how this research has already been implemented in an educational context, and a library of related and engaging online content [15].

The frameworks themselves are based on a synthesis of the major domains in the field. They aim to guide teacher education programs around the world to recalibrate their current models in light of new evidence in the following areas:

2.4.1 Where do children live?

The context and environment in which children live is paramount to their success as learners in formal school settings. Mostly middle class new teachers often lack deep understandings of culture, family, diversity and community dynamics.

The most innovative teacher preparation programs embed direct community and family involvement early into their education.

2.4.2 How and when do children learn?

The work in neuroscience, psychology, indigenous cultures, the arts, technologies, equity, learning differences, etc., is all forming a new transdisciplinary area of 'learning sciences'.

We have just begun to understand learning and its many forms and contexts in light of new innovations. Most of the new learning from brain research, including the recent knowledge about toxic stress [16], adolescent development [17], the importance of physical movement, creativity and the impact of technologies has not yet made its way to teacher preparation [18, 19].

2.4.3 What should children know and be able to do as a result of schooling?

In the past 20 years, schools have often been pressured to become testing centres rather than leaning centres. To be successful in the innovation age, young people need exposure to a dynamic curriculum that helps them master traditional literacy and numeracy skills inside of an engaging problem-solving environment that focuses on students finding their passion, developing critical thinking, enables creativity, and fosters their innate curiosity for learning.

Teacher education should go way beyond the syllabus for each country and foster the newest and best thinking about knowing and doing in a global context. Students in Sydney are not only in competition with students in Brisbane and Perth, but also with students in Mumbai, Shanghai and Boston.

2.4.4 Why is equity such a vital component for the common good?

A focus on equity (fairness) is paramount to overcoming injustice, providing social cohesion, improving living standards and protecting democracy. Most teacher education programs currently isolate equity issues inside of introductory courses rather than wrap learning with equity throughout their program designs.

Most of the pedagogies taught to new teachers are about 'fixing' student deficits rather than building upon the amazing capacity and evolving cognitive capacity of every child.

2.4.5 Who am I as a learning and equity leader?

Whom teachers are and how they behave is one of the most underrated competencies of learning to teach. Caring, flexibility, resilience, respecting diversity, overcoming inequities, advocating for children, leadership and positively communicating with colleagues and parents are all as vital as content knowledge and pedagogical prowess.

Many new teachers are strong in content, but the social aspect of their job may not be developed. It is possible for someone to meet the current standards but fail children.

These frameworks might be the grounding across the various standards in states and nations to guide learning and equity and to build a sound way forward with the world's best experts informing the process.

Implicit in these frameworks is a new approach to teacher education. I propose that teacher education programs align with an international set of frameworks and

backwards map their research informed curriculum, instruction and assessment practices with national, state or province standards. Rather than being dictated to by policy makers, teacher educators can claim the knowledge base they contribute to and expand the interdisciplinary connections to the related fields that empower candidates across the five GLEN frameworks. This would be a new kind of teacher education built on current and future knowledge and prepare candidates for the schools we need rather than the ones we hold on to. This would indeed be a different kind of teacher prepared for a different kind of school.

3. Conclusion

When Copernicus posited, and Galileo confirmed the Sun as the centre of the solar system and that the Earth revolved around it, many learned people of the time considered this heresy. The notion that the syllabus can be accomplished by adjusting it to the passions and needs of the learners is possibly considered heresy today. To some, the idea that passion and student wellbeing help drive intellectual curiosity and lead to building cognitive capacities seems impossible at worst or unrealistic at best. However, the goal of learning for all is to design schools based upon and built around the needs of learners rather than the syllabus or the needs of adults. This is the direction we are heading led by great educators around the world who have adopted promising school designs. If we stay on top of the technological advances, smart tools can help us differentiate in powerful ways. By preparing new teachers differently, we can provide a bridge from old school to new school without a lost generation of disruption.

When I talk to parents of school age children, they often complain that some students on some days get different assistance from their teachers. They tell me this is not fair. Actually, it is fair, it is not equal. Equity is about giving each child what they need, when they need it. With fairness one of the core values of progressive countries around the world, and as we collectively address the inequities of the past, new school designs and new teacher education designs may be part of our journey to fairness. All of us deserve a fair go as a child, not a predetermined norm-reference box we are put in. Secondary school graduates this year around the world are the first generation of learners born since 2000. They are twenty-first century natives. We can no longer wait to embrace change. It is already here. We can do this.

Acknowledgements

The author wishes to thank the members of the Global Learning Equity Network for their groundbreaking work in creating pathways across the planet for a new approach to teacher education.

Conflict of interest

None.

IntechOpen

IntechOpen

Author details

John Fischetti
University of Newcastle, Australia

*Address all correspondence to: john.fischetti@newcastle.edu.au

IntechOpen

© 2019 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. 

References

- [1] Goss P, Sonnemann J, Griffiths K. Engaging students: Creating classrooms that improve learning. In: Grattan Institute Report No. 2017-01; February 2017. Victoria, Australia: Grattan Institute; 2017. pp. 1-40
- [2] Rose M. The Washington Post. Is Teacher Education a Disaster? [Internet]. 2014. Available from: https://www.washingtonpost.com/news/answer-sheet/wp/2014/01/13/is-teacher-education-really-a-disaster/?noredirect=on&utm_term=.6ec2501becbd
- [3] Bial R. One-Room School. Boston: Houghton Mifflin Co; 1999
- [4] Dewey J. Experience and Education. New York: Free Press; 1938
- [5] Fischetti J. Issues in education: The rubber duckies are here: Five trends affecting public education around the world. *Childhood Education*. 2014;**90**(4):316-318. DOI: 10.1080/00094056.2014.937309
- [6] Mayer D. Forty years of teacher education in Australia. *Journal of Education for Teaching*. 1974-2014;**40**(5):461-473. DOI: 10.1080/02607476.2014.956536
- [7] Graham LJ, Cologon K. The Conversation. Explainer: What Is Differentiation and Why Is It Poorly Understood? [Internet]. 2016. Available from: <https://theconversation.com/explainer-what-is-differentiation-and-why-is-it-poorly-understood-55757>
- [8] Je-Bak H. Education and public attitudes toward science: Implications for the “deficit model” of education and support for science and technology. *Social Science Quarterly*. 2001;**82**(4):779-795. DOI: 10.1111/0038-4941.00059
- [9] Williams M. Universe Today. A Universe of 10 Dimensions [Internet]. 2014. Available from: <https://www.universetoday.com/48619/a-universe-of-10-dimensions/>
- [10] Tuffley D. The Conversation. Australia Must Prepare for Massive Job Losses due to Automation [Internet]. 2015. Available from: <https://theconversation.com/australia-must-prepare-for-massive-job-losses-due-to-automation-43321>
- [11] Australian Institute for Teaching and School Leadership, AITSL. Australian Professional Standards for Teachers [Internet]. 2017. Available from: <https://www.aitsl.edu.au/teach/standards>
- [12] Cochran-Smith M, Feiman-Nemser S, McIntyre DJ, Demers KE, editors. *Handbook of Research on Teacher Education: Enduring Questions in Changing Contexts*. 3rd ed. New York: Routledge; 2008
- [13] The University of Newcastle. Global Learning Equity Network [Internet]. 2018. Available from: <https://www.newcastle.edu.au/glen>
- [14] The Frameworks of the Global Learning Equity Network. Available from <https://www.newcastle.edu.au/glen>
- [15] Fischetti J. Reframing teacher education for learning equity. *Peabody Journal of Education*. 2018;**93**(3):267-271. DOI: 10.1080/0161956X.2018.1469228
- [16] Centre on the Developing Child at Harvard University. 3. Toxic Stress Derails Healthy Development [Internet]. 2011. Available from: <https://www.youtube.com/watch?v=rVwFkcOZHJw>

[17] Richards V. Adolescent development: Personal and social changes. In: Richards V, Howe A, editors. Bridging the Transition from Primary to Secondary School. London: Routledge; 2015. pp. 56-71

[18] Chavez-Eakle RA. New Horizons for Learning: The Relevance of Creativity in Education [Internet]. 2010. Available from: <http://jhepp.library.jhu.edu/ojs/index.php/newhorizons/article/view/71>

[19] Zhao Y. Yong Zhao Creative, Entrepreneurial, and Global: 21st Century Education: Never Send a Human to do a machine's Job: Top 5 Mistakes in Ed Tech [Internet]. 2015. Available from: <http://zhaolearning.com/2015/10/25/never-send-a-human-to-do-a-machine%E2%80%99s-job-top-5-mistakes-in-ed-tech/>