

**REGULATION OR DEREGULATION?
OBSERVATIONS ON EDUCATION IN GERMANY AND AUSTRALIA**

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Abstract

This paper compares the educational landscapes of both Germany and Australia with a view to considering the best way forward for each country in the light of the challenges each faces in terms of equity, diversity and educational performance. It compares the organisation of and responsibility for primary and secondary schooling and higher education, including teacher education.

Every educational policy, structure and initiative has its benefits and costs, and thus the perceived relative strengths of education within each country are also seen to bring with them associated challenges. These are explored.

When the first results were released following the introduction of PISA in 2000, Germany experienced 'PISA shock' and put in place a number of initiatives that have seen Germany's results for PISA and for equity improve in every subsequent iteration of PISA, whilst still maintaining a highly regulated state [Land]-based system of educational organisation.

Australia, in comparison, has moved more towards deregulation of education through greater privatisation of schools and opening education to market forces, often without adequate evidence or in some cases in spite of it. Concurrently, Australia's performance on international measures has declined and equity gaps have widened.

Background

I have been visiting Germany since 2008 under the auspices of the Robert Bosch Stiftung [foundation] to participate in dialogue around key international issues, including those relevant to education.¹ My most recent visit of three months in late 2014-early 2015 as a Richard von Weizsäcker Fellow of the Robert Bosch Academy² enabled me to spend a longer period in Germany visiting schools, observing classrooms, teaching, presenting, interviewing in schools, universities and various government departments, and engaging with educators, relevant ministers, officials and others.

The focus of my recent fellowship was on comparing the German educational landscape with that of Australia, including structural and regulatory arrangements, policy, and current trends and developments. I was also interested in how Germany had traditionally structured primary and secondary education and the concerns some had expressed about the influence of 'tracking' on student performance.

When I first visited Germany I was struck by several concerns held within the country. The first was 'PISA shock', still being felt from the results of Germany's first Programme for International Student Assessment (PISA) results in 2000. Germany had believed its education system to be amongst the most effective in the world. PISA indicated otherwise (OECD, 2011: 201). The second, possibly related issue, was the educational attainment of growing numbers of migrant and refugee children, many with non-German speaking backgrounds from nations such as Turkey, Russia, Poland and the Balkans, and whether this might be responsible at least in part for the unexpectedly unfavourable results.

¹ <http://www.bosch-stiftung.de/content/language2/html/index.asp>

² <http://www.robertboschacademy.de/content/language2/html/53496.asp>

I have commented previously on the powerful, fundamental and largely unnoticed changes occurring within Australian education (Dinham 2014a, 2014c), which include strong emphases on deregulation, privatisation, greater 'autonomy' for schools, and opening schools and education more generally to competition and the 'free market'. These beliefs and trends are manifest in developments such as government funded independent schools, 'uncapping' of undergraduate places for teacher pre-service education, entry of new teacher education providers, the beginnings of a movement of teacher education (back) to schools, the 'Teach For ...' program, calls for greater autonomy for schools and the entry of international publishers and 'big business' into all aspects and phases of education (Dinham, 2015).

These developments are grounded in a belief that public education in its traditional forms is failing and is in 'crisis' (Berliner & Biddle, 1995; Berliner, Glass & Associates, 2014; Dinham, 2014a, 2015). According to this logic, deregulation and competition are essential for encouraging greater flexibility and innovation and will lead to higher levels of educational performance. However evidence is frequently lacking prior to the introduction of such developments and in some cases, available evidence refutes the claims made by proponents. Change occurs nevertheless and even accelerates. I was interested to see if such forces for change were operating in Germany, and if so, the extent of their impact.

Purpose and Scope of this Paper

In this paper education is compared and contrasted in Germany and Australia with a view to considering the best ways forward for each country.

Every educational policy, structure and initiative has its benefits and costs, and thus the perceived relative strengths of education within any country are also seen to bring with them associated challenges. These are explored. Because of greater familiarity of the intended audience with Australian education, more time is spent examining relevant features of education in Germany.

Due to the complexities of German education, where each of the 16 Bundesländer/Länder ('states', Land singular) has responsibility for its respective education system, what is presented is a general picture, although there is a high degree of commonality in terms of traditional and contemporary approaches, regulations, governance and structures across Germany.

Responsibility for Education

Germany and Australia are similar in that constitutionally education is a state responsibility. In the case of Germany there are thus 16 educational 'systems' rather than one, with each Land determining its own educational policies, regulations and mechanisms for standards, innovations and quality assurance.

Similarly in Australia there are eight states and territories with primary responsibility for school education, although since 2007 there has been more of a nationally consistent approach in the areas of national testing, national curriculum, professional teaching standards, teacher development, teacher appraisal and certification, and the accreditation of teacher education courses.

Thus, while some aspects of education and schooling in Australia have become 'looser' through deregulation, some aspects have become more uniform, regulated and 'tighter' as a result of national agreements and developments (Weick, 1976).

In comparison, Germany does not have the same level of federal involvement in education as Australia, although there has been greater federal and Länder 'soft' cooperation since 2001 in areas such as aggregated national reporting on education, along with reporting on special issues such as diversity and inclusion (see Federal

Ministry of Education and Research, 2014), commissioning of international and national studies into certain priority areas and the collaborative formulation of national standards for students at three levels, although the adoption and utilisation of many of these initiatives has been optional and thus take-up has been varied across Länder.

A commonly expressed view from educators and policy makers at all levels I spoke with was that because Länder vary so much in context – from ‘city states’ (*Stadtstaaten*) such as Berlin and Hamburg to rural and regional Länder - comparisons between the performance of Länder are thus invalid and undesirable.

In my discussions with federal officials I detected some frustration at the federal government’s inability to exert more influence over education. There has been some success however in assisting Länder with the introduction of more ‘all day schooling’ (*Ganztagsschule*)³, with the result that approximately half of primary age students now attend school for the ‘whole’ day, although this takes different forms in different Länder and schools. The Federal Ministry for Education and Research has also assisted change and improvement through the provision of special programs in areas such as natural science and accommodating student diversity, but the take-up of these at a Land and school level is once again voluntary and thus variable. There is also a national conference of Land education ministers (*Kultusministerkonferenz*) that attempts to facilitate national cooperation.

While federal authorities provide funding to universities for initial teacher education, there is little federal involvement in continuing professional development for teachers, which is commonly regarded as the responsibility of Länder and schools.

A key difference between the countries is in the proportion of students attending government schools. In 2012, around 65 per cent of school age students in Australia attended government schools, a small proportion by world standards and one that is falling (Australian Bureau of Statistics, 2013). In Germany, the proportion of students attending non-government schools is increasing slightly, but fewer than eight per cent of students in Germany attend such schools (OECD, 2007: 269).

Another point of difference is that local government plays a more active role in school education than in Australia, with local government in Germany being substantially responsible for the provision and operation of schools, apart from teachers’ salaries. This involvement of local government is more than just financial however, with local elected officials and communities demonstrating a high degree of engagement with and ‘ownership’ of local schools. In Australia local government has very little involvement in education apart from local regulations and utilities, and with the commonwealth government having a greater role in school funding than in Germany.

In both nations there is thus a lack of direct federal government influence and control over education, with commensurate need to gain consensus with the states/Länder in order to implement uniform national policies, structures, programs, standards and change agendas.

The organisation of schools: ‘Tracking’ versus ‘Comprehensive’ schooling

The most significant difference between German and Australian schooling lies in the organisation of primary and particularly secondary schooling.

³ The fact that the majority of schools in Germany did not previously operate in the afternoon (although many did open from 7-30am to 1-30pm or thereabouts) was one factor thought to be contributing to Germany’s disappointing performance on PISA in 2000 and subsequently. Up to the 1980s Saturday schooling was however common in both East and West Germany but is rare now.

In Germany primary schooling (*Grundschule*) begins at age six⁴ and ends at the age of 10 (grade 4) after four years (except for Berlin and Brandenburg where students leave primary school at 12), whereas in Australia there are seven years of primary schooling – Western Australia and Queensland have adopted this structure in recent years - from the ages of five to 12, ending in grade 6.

Whilst comprehensive secondary education was progressively introduced in Australia from the mid-1950s (Campbell & Sherington, 2013), it is still rare in Germany and is an option in some places only rather than universal, meaning such schools are not truly comprehensive in the usual sense of the term.

Traditionally, entry to the secondary ‘tracks’ below was determined by the decision of primary school staff after students’ completion of grade 4. More recently, parents in some cases now have a choice in (or try to influence) the type of school their child will attend. Some educators I spoke with see this as a retrograde step, in that the decision has been taken out of teachers’ hands, with greater pressure now being exerted by ‘pushy’ and/or ‘middle class’ parents. In some communities, entry to the highest status and more sought after *Gymnasium* schools (see below) is through ballot.

German secondary education varies from Land to Land and regionally within Länder but typically there are now five major forms⁵, although this list is neither complete nor universal (see Hainmüller, 2003). The first three types are the traditional pathways or forms of secondary schooling in Germany. Although it is possible to change tracks, this is usually ‘downwards’ and not to a ‘higher’ track⁶:

1. **Gymnasium** (or grammar schools) – the most ‘academic’ schools, operate until grades 12 or 13 and enable those who meet the general standard for entry to university (*Hochschulreife*) and passing of the *Arbitur* examination to qualify for university entrance.⁷ [Originally intended for students of the highest ability to take examinations for the *Arbitur* and then gain entry to training for the most prestigious professions. Two foreign languages are usually required with higher level maths and science and optional ‘honours’ courses (*Leistungskurse*) available.]
2. **Realschule** - grades 5-10 with the *Mittlere Reife* exit exam and *Realschulabschluss* qualification. [Originally intended for students of higher ability to prepare them for a ‘white collar’ qualification.]
3. **Hauptschule** [Main School] - the least ‘academic’ stream usually ending in grade 9 (with the qualification of *Hauptschulabschluss* and in some cases *Realschulabschluss* after grade 10, and in the case of **Mittelschule** [grades 5-10] combining *Hauptschule* and *Realschule* in some Länder). [Originally intended for the lower ability majority of students to prepare them for ‘blue collar’, working class occupations.]
4. **Fachoberschule** – vocational/technical school, [sometimes leading to a **Berufsschule** that offers academic study combined with an apprenticeship] with admission after grade 10 until grade 12 (or 13 in some cases), with the *Arbitur* available/obtained subject to certain conditions.
5. **Gesamtschule** – grades 5-12 or 5-13 comprehensive/community school effectively combining the three main types of secondary school. [comprehensive in nature but not universal as only a minority of students attend such schools. The *Arbitur* is available/obtained subject to certain conditions.]

Traditionally the highest status stream has been the *Gymnasium* and because of this and the pathway to university it offers, demand remains high for this option. Teachers in

⁴ Pre-school education is not a public provision in Germany.

⁵ There are also separate ‘special’ schools (*Förderschulen* or *Sonderschulen*) for students with learning and/or physical disabilities. Although greater efforts are being made in the area of inclusion, the present degree of this form of tracking has been subject to criticism.

⁶ Similar tracks or forms exist in Switzerland and Austria.

⁷ The *Arbitur* – a combined written and oral examination - guarantees admission to a university but not to a particular field of study.

Gymnasium schools usually earn higher salaries, have lengthier training and are considered subject experts (in two subjects), unlike Australia where (primary and secondary) teachers with the same qualifications and experience earn the same or similar salaries regardless of the type or level of schooling.

Because of the recognition that streaming or tracking students can be counter-productive - in terms of students achieving their potential (Hattie, 2009: 89-91), having access to a broad secondary education and gaining entry to higher education, and research evidence from measures such as PISA revealing that high performing nations such as Finland do not 'track' - there have been moves to make the various certificates such as the *Hauptschulabschluss*, *Realschulabschluss* and the *Arbitur* more available across the various forms of secondary education and to make the higher levels of secondary subjects such as mathematics, science and thus higher education more accessible to a greater number and wider spread of students.

While *Gesamtschule* (comprehensive secondary schools) have increased in number since the 1960s, these are still not widely available and are considered by many to be an inferior form or option to, rather than as a replacement for *Gymnasium*. Having visited schools of the two types, there appears to be some tension and antipathy on the part of staff and parents from each towards the other.

Debates concerning 'tracking' or 'streaming' continue across Germany. Critics of 'ability' streaming claim that making such decisions so early in a student's academic career is both unfair and ineffective in terms of limiting opportunity and unmet potential, especially for students from poorer and/or other backgrounds who are still mastering German. Critics also point to the fact that parents from higher socio-economic backgrounds are more successful in having their children gain entry to *Gymnasium*, with the result that there is a form of socio-economic segregation that is self-perpetuating.

According to proponents of tracking, teachers are better able to meet the academic needs of students through tailoring teaching to the various broad ability levels of their students. Some principals and education officials I spoke with reported that *Gymnasium* teachers can have an attitude that they are subject content experts and as such should not have to meet the needs of more diverse students through adapting their pedagogy.

Supporters of tracking also note that *Gesamtschule* schools are ranked lower than other forms of German secondary schools on PISA, and that students from lower socio-economic backgrounds attending *Gesamtschule* do worse than students with higher SES backgrounds attending the same schools, the (tenuous) implication being that lower SES students would be better off following a traditional path such as *Realschule* or *Hauptschule/Mittelschule*.

A key question is whether Germany's improving educational performance is because of, or in spite of, the tracking that still exists. Until greater numbers of more representative students attend *Gesamtschule* and this type of school becomes more widely available so that more informed conclusions based on evidence can be drawn, these debates (and prejudices) are likely to continue.

Internationally, the issue of ability streaming remains contested and despite Australia ostensibly having comprehensive schooling there are signs that ability grouping and more formal 'tracks' within schools are experiencing a resurgence, possibly due to the pressures coming from external testing, despite evidence that both tracking and academic streaming do not have significant positive influences on student achievement overall (see Kilgour, 2007; Hattie, 2009: 89-91).

Higher Education in Germany

Universities in Germany are typically state institutions, controlled and financed by state ministries of education. There are two main types of higher education institutions; universities (*Universitäten*) and '*Fachhochschulen*' (universities of applied sciences and arts). Initial university undergraduate education is essentially free and provided by the state but higher degree studies undertaken beyond this attract fees, which may be a disincentive for practitioners such as teachers to engage with ongoing professional development, something picked up later in this discussion.

Traditionally it has been difficult to obtain a university academic position in Germany, with criticism that the process was both protracted and subjective, being unduly and unfairly influenced by 'contacts' and patronage. From 2001 attempts have been made to open up access to higher education, including the use of a new 'junior professor' position or pathway as an alternative to the traditional '*Habilitation*' requirement (see below) to become a professor. There have also been attempts to introduce a more merit based career advancement system, rather than relying so much on seniority and 'contacts'.

Habilitation is a form of advanced theoretical work doctoral holders are required to complete to become a professor, sometimes referred to as a 'second PhD'. The effect of this traditional pathway to the position of professor has been to foster a strong theoretical basis - a higher level of abstraction - which in some ways removes the professor or 'scientist' further from the practical and applied aspects of their profession.

Teacher Education in Germany⁸

Teacher training in Germany is controlled by individual Land legislation.⁹ Ministries of education regulate training through examinations and rigorous course accreditation and teacher certification/employment requirements, much more so than is the case in Australia.

Despite the fact the teacher education is regulated by Land authorities, there is a high degree of national commonality in teacher pre-service training and qualification as a teacher.

Entry to teacher education is through attainment of the *Hochschulreife* (general standard for entry to university) and passing of the *Arbitur* examination. There are two stages to teacher training - study at a higher education institution and practical pedagogical or preparatory training. A pass in the 'First State Examination' (*Staatsprüfung*)¹⁰ at the end of undergraduate university training is required for admission to teacher preparatory training (*Vorbereitungsdienst*).

Teacher education courses must usually include the study of at least two subjects or subjects groups, educational psychology and theory, pedagogy, additional study areas and practical school experience.

Training for primary school teachers (up to grade 4) typically takes 3.5 up to 5.0 years at university, comprising a bachelor's (BA or BSc) and then a master's degree (MA, MSc, MEd). For lower secondary teachers (grades 5-9) 3.5 to 4.5 years of university training is generally required as above, with a further two years of practical training in school settings in each case (see *Referendariat* below).

⁸ See <http://www.european-agency.org/country-information/germany/national-overview/teacher-training-basic-and-specialist-teacher-training>

⁹ Once again, there are variations and new initiatives. What follows is typical but not universal.

¹⁰ Other professions also require state examinations - including doctors, pharmacists, lawyers, judges, prosecutors - as a matter of public interest and quality assurance.

The typical pathway for teaching at the upper secondary level in Germany consists of a three-year BA/BSc degree. Candidates are required to choose two subjects as majors for their study program which provide the academic subject content knowledge to teach these subjects in schools. Candidates take courses in subject specific pedagogy for each major as well as general pedagogy/educational science that provides broader educational knowledge as part of their initial undergraduate degree.¹¹

This three-year undergraduate programme in content and pedagogy – which can involve some practical work in schools - is then followed by a two year master's degree (MA, MSc, or MEd). Here teacher candidates continue to follow their chosen subjects as majors. Once again they take courses in content specific pedagogy as well as general pedagogy/educational science.

Teaching practice (termed the *Referendariat*) then occurs, usually over two years, where candidates (on a partial salary) acquire the practical teaching skills in their subjects under the supervision of a senior teacher or mentor while continuing to take courses in general pedagogy and subject specific pedagogy. Candidates are examined at the end of the two years with the 'Second State Exam' (*Staatsprüfung*).

Teachers who gain fully qualified status through this process and who obtain a position then have civil servant status and 'a job for life'. In effect, once someone commences a teaching pathway, he or she is 'locked in' to the profession, assuming they pass, unlike Australia where many people undertake an undergraduate degree before deciding to be a teacher. In Germany however, there is less mobility between qualifications and occupations.¹²

In general teachers in Germany have a stronger and lengthier theoretical foundation in content, pedagogy and practice prior to becoming a qualified teacher than is the case in Australia. Based on conversations in Germany and my observations there and in Australia, the overall variation in the standard of teacher education courses is less in Germany than in Australia as a result of these controls, a matter the recent Teacher Education Ministerial Advisory Group inquiry (2014) sought to address.

The commitment to become a teacher in Germany is thus a substantial one. As an aside I believe this is one reason why the 'Teach For/First' movement in Germany has had only limited acceptance. Where 'Teach First Deutschland' 'fellows' have been placed in schools – they have been accepted at only 125 schools across six Länder¹³ - their main role has been more to do with assisting teachers and supervising extra-curricular activities than teaching in their own right because they do not have and are not acquiring the requisite training. Further, such fellows do not receive a qualification or credit/advanced standing for the two years they usually spend in this role. To become a qualified teacher they would need to undertake a full program of teacher education as outlined previously.

On-going Teacher Professional Development

When speaking with teachers and principals in schools of various types in Germany about ongoing professional learning there was general dissatisfaction expressed with externally provided in-service education. There was a view that such activities and courses were not seen as relevant to teaching and were more about complying with

¹¹ There is also training for teachers of special education. See <http://www.european-agency.org/agency-projects/Teacher-Education-for-Inclusion/country-info/germany/structure-and-content-of-initial-teacher-education-courses>

¹² By contrast, in Australia the usual tracks to become a teacher are either a four-year undergraduate Bachelor of Education degree or a three-year undergraduate degree followed by a two-year Masters under current AITSL program requirements (AITSL, 2011).

¹³ See <http://teachforall.org/en/national-organization/teach-first-deutschland>

imposed educational change. Likewise there was a perception that universities exist to provide initial teacher training but that universities' other offerings – which unlike initial training have to be paid for – are theoretical and unnecessary. After up to seven years of examinations, courses and practical work, a teacher is considered a fully qualified professional. University education academic staff I consulted saw teachers' on-going professional learning as a Land and school responsibility.

However there was a firm belief from a minority of teachers and principals I consulted that collaborative professional learning with colleagues *was* of great value. Some schools I visited, including those that were recipients of the German School Award (*'Der Deutsche Schulpreis'*)¹⁴, were characterised by strong staff commitment to and involvement in professional learning, something thought essential to the 'turn-around' process with which some of these schools had been engaged.

More typically however, principals described the difficulties and frustrations they experienced in trying to engage teachers in professional learning, particularly that taking place outside the school. Principals explained that while they had some authority over the allocation of teachers to particular subjects and grades, they had none over teachers' engagement with professional learning, especially if this took place out of 'school hours'. Principals also reported union opposition to requiring teachers to engage in in-service training once teachers were qualified.

In comparing the two countries it seems that in Australia there is a greater acceptance and practice of in-service education being provided by employers, professional associations, universities and others, than in Germany. A case in point is the use of professional teaching standards in Australia that are designed, in part, to inform teachers' professional learning (see Clinton, et al., 2014). When explaining features of education in Australia I was told on numerous occasions that the introduction of teaching standards with allied appraisal and certification processes for qualified practicing teachers would be strenuously resisted by teachers and their unions in Germany.

There is also the issue of teacher tenure in Germany, which as noted, in effect provides a job for life once employment is obtained. This undoubtedly helps to attract people to the profession, provides security and aids retention but it could work against on-going involvement in professional learning. Further, Australia has a longer history of formal teacher performance development and appraisal than appears to be the case in Germany. In talking with principals from both countries, whilst principals in Australia might complain about the *difficulty* of dismissing a poor teacher, principals in Germany speak of the *impossibility* of the task.

The Value of Education and Training

An overall impression is that Germany has and continues to place great emphasis upon formal education and training. There is compulsory school attendance (*Schulpflicht*) from age 6 until 15 and home schooling is illegal. There is strong belief in the contribution effective public education makes to personal, social and national prosperity.

There are pathways to obtaining certificates, diplomas, degrees and other qualifications that are long established and well-known, including the highly regarded 'dual system' with industry.¹⁵ Training for any occupation is usually lengthy with the payoffs being

¹⁴ See <http://www.bosch-stiftung.de/content/language2/html/1007.asp>

¹⁵ 'Germany's dual education system is called 'dual' because it combines apprenticeships in a company and vocational education at a vocational school in one programme. In the company, the apprentice receives practical training which is supplemented by theoretical instruction in the

tenure, security, salary and status. A possible downside with this arrangement is the difficulty involved with changing careers when essential qualifications are lacking and retraining is necessary. One's initial choice of career is often binding or limiting.

There is also the growing issue of recognising qualifications from other nations, something Germany is currently addressing due to the influx of migrants and refugees. I encountered strong opposition to the possibility of any weakening or downgrading in the training and qualification requirements for particular occupations through accepting 'lesser' qualifications from outside the country.

In schools a major emphasis is placed upon a broad education with students learning at least one language in addition to German (with two foreign languages the norm in *Gymnasium*). I visited a number of schools where a subject such as geography was being taught in English (and had the pleasure of teaching about Australia in some classes). I also witnessed the ready labelling of students as gifted, or not, and the apparent acceptance of such categorisation or labelling, something with which I was uncomfortable, knowing the harm it can cause (Hattie, 2009: 214-215). Sometimes the various types of secondary schools 'tracks' are part of the one educational complex or precinct with shared facilities, again an uncommon occurrence in Australia, although the lack of school uniforms possibly ameliorates stigmatisation from being in a 'lower' status school.

As noted, school and undergraduate education, along with other forms of technical education and training, are essentially free and this is seen as an investment and indeed an obligation on behalf of the state.

Whilst in Australia governments are moving away from supporting technical education through cutting funding to traditional technical ('TAFE') colleges, encouraging alternative providers and importing skilled labour rather than training local people, Germany is prepared to invest in education and training.

At a time when other nations are moving more towards the notion of deregulating and marketing education at all levels under a 'user pays' philosophy, education and training in Germany remains highly regulated and in the hands of public authorities.

Integration of students with disabilities and care for students

There have been significant efforts in Germany at the federal and state levels since 2001 to address the issues of the growing diversity of the school population, disadvantage and the integration of students with disabilities into mainstream schools (OECD, 2011). It is commonly accepted that Germany and German schools were unprepared for the influx of economic migrants and refugees over the past two decades.

Some schools I visited in lower socio-economic areas offer breakfast programs for students and others offer lunch programs (the movement of more schools to 'whole day' schooling has added to the need for the latter). These meals tend to be open to all students at the school, rather than the situation sometimes seen in Australia where certain students are nominated or selected to undertake breakfast or lunch programs, with possible resultant lower status or stigmatisation. The prevalence of teachers sitting, interacting and eating with students I observed in schools appears to be both a product of and a contributor to greater teacher-student understanding, positive relationships and mutual respect, all of which auger well for greater student achievement.

There has been a major emphasis on the integration of students with disabilities into regular schooling rather than the previous situation of more special schools and

vocational school. Around 60% of all young people learn a trade within the dual system of vocational education and training in Germany.' (OECD, 2011: 205).

tracking. Catering for diversity has been an increasing concern and emphasis in Germany over the past two decades. Special education needs have been identified for almost half a million school children and various programs introduced and structural problems overcome to implement a more inclusive education system (see Federal Ministry of Education and Research, 2014).

How do the two nations compare on international measures?

As noted, prior to the introduction of PISA in 2000, German policy makers and the general public were of the opinion that Germany had one of the most effective and highest performing education systems in the world, although there were warning signs that were largely ignored when Germany first took part in the Trends in International Mathematics and Science Study (TIMSS) in 1995 and the nation scored relatively poorly (OECD, 2011: 208).

The first PISA results revealed that many German schools were under-performing compared with other countries participating in PISA. Germany reacted strongly to these adverse findings, with the result that its PISA results have improved in every iteration since 2000 (Bloem, 2012).

The OECD (2011: 201) summarised the major factors contributing to Germany's strong recovery and improvement on PISA since 2000. These factors include:

- Changes made to the structure of secondary schooling to enable greater accessibility to the various qualifications including the *Abitur* and other measures aimed at overcoming the effects of socio-economic background on student achievement, which are greater than for any other OECD country.
- The high quality of Germany's teachers including the strong focus on initial selection, state-based examinations, training and certification.
- The value of Germany's dual system whereby workplace skills can be developed in children before they leave school.
- The development of some common standards and curricula guidelines and the assessment and research capacity to monitor these.

Because of near universal public education in Germany, coupled with strong Land control, it may have been easier to introduce reforms across systems and schools than might be the case in a more diverse and less 'controlled' system such as Australia, which has a large (by world standards) and growing non-government school sector.

International tests are only one indicator of teaching and learning achievement but the following comparisons between Germany and Australia may be instructive. In some cases, Germany does not participate in the respective testing regime, i.e., Year 8 TIMSS.

As noted, Germany is now in the position where its PISA results have shown marked, steady improvement since 2000. That is not the case for Australia however, where PISA results have been in general decline and measures such as PIRLS (Progress in International Reading Literacy Study) and TIMSS have recorded primary school results that are inferior in comparative terms to Australia's secondary TIMSS and PISA results (Dinham, 2014b).

It can be seen below that on every aspect of TIMSS, PIRLS and PISA - with the exception of PISA Reading Literacy where Australia narrowly leads Germany and with the difference in performance not significant - German students outperform their Australian counterparts.

Table 1: TIMSS (*Trends in International Mathematics and Science Study*) [2011] (Thomson, Hillman, et al., 2012)

Year 4 Maths:

Australia - 18th out of 52 'countries'¹⁶

Germany - 16th [statistically significantly different to Australia]

Year 4 Science:

Australia - 25th out of 52 'countries'

Germany - 16th [statistically significantly different to Australia]

Year 8 Maths:

Australia - 12th out of 45 'countries'

Germany - N/A

Year 8 Science:

Australia - 12th out of 42 'countries'

Germany - N/A

Table 2: PIRLS (*Progress in International Reading Literacy Study*) [2011] (Thomson, Hillman, et al., 2012)

Year 4 Reading:

Australia - 27th out of 48 'countries'

Germany - =16th [statistically significantly different to Australia]

Table 3: PISA (*Programme for International Student Assessment*) [2012] (Thomson, De Bortoli & Buckley, 2013)

[15 year olds, 2012]

Reading Literacy:

Australia - =13th out of 52 'countries'

Germany - =19th [not statistically different to Australia]

Scientific Literacy:

Australia - 16th out of 55 'countries'

Germany - 12th [not statistically different to Australia]

Mathematical Literacy:

Australia - 19th out of 53 'countries'

Germany - 16th [statistically significantly different to Australia]

Despite Germany's on-going concerns over its performance on international measures of student achievement, as noted, this performance has improved significantly. Germany, along with Mexico and Turkey, are the only countries to have improved in both PISA mathematics *and* equity since 2003, with these improvements largely the result of better performance amongst low-achieving and disadvantaged students, and with Germany's performance in mathematics, reading and science now above OECD

¹⁶ 'Countries' is used advisedly as some of the jurisdictions' samples are from cities, city states, parts of countries or actual countries.

averages. Possibly the one negative amongst this pattern of significant improvement is that Germany also has one of the highest rates of grade repetition among OECD countries¹⁷, although some might argue this improvement is partly attributable to repetition.

Discussion: The Strengths and Weaknesses of Tradition and Regulation

While it could be argued that strong traditions and tight Land government regulations in education might hinder innovation and change in Germany, these can also act as a form of protection from international trends and forces and ensure that standards are not compromised. Whilst Australia is moving down the road of greater deregulation, there is strong resistance to this in Germany. As noted, federal agencies in Germany are relatively less influential in education than is the case in Australia and this might also act to protect the country as a whole from some of the fads and fashions that are becoming endemic in other countries such as the USA and England (Dinham, 2014a; 2015).

The notion of teachers having 'a job for life' and whether this works against teachers' continued professional development is open to speculation. Certainly tenure is an incentive to undergo the lengthy training required to become a teacher, and to some degree this contributes to the relatively high status of the profession. On the other hand the notion of being a fully trained autonomous professional could work against a commitment to and involvement in ongoing professional learning for some teachers. This constitutes a challenge for many principals, according to those with whom I spoke. As an aside, I frequently encountered the view that there is reluctance on the part of teachers to nominate for the position of principal and that principals lack authority and sufficient remuneration yet are accountable to all. Principals also have a heavier teaching load than is the case in Australia, which might also make the position unattractive to some.

There is no context free recipe or model for educational success, however defined and measured. Australia is not Germany, nor Finland, Singapore or Shanghai for that matter. However Germany *has* been successful in lifting its performance at a time when Australia's is in decline, and so there may well be lessons to be learned.

To sum up, some of the existing strengths of education in Germany, and some of the changes implemented since the first PISA results from 2000, include:

1. Strong state or Länder involvement in and control over standards in teacher education.
2. The rigorous and lengthy process of becoming a teacher, including entry exams, subject content, specific and general pedagogical training, exit exams, and structured induction and beginning teaching in schools.
3. The relatively high status of teaching as a profession.
4. The strong and meaningful involvement of local government and local communities in schools.
5. The strong and continuing national emphasis on investing in education and training for personal, social and economic prosperity, with 'free' school education, training and undergraduate education.
6. The dual education system involving schools, employers, governments and trainees that involves around 60 per cent of all young people (OECD, 2011: 205).
7. The collaborative formulation of national standards on student learning and the quality of teaching, although these are not universal or binding.

¹⁷ PISA data for 2012 indicated that one in five students in Germany had repeated a grade at least once (Bloem, 2012: 1, 9).

8. The emphasis and focus on low-achieving, disadvantaged students, diversity and inclusion since 2001, with resultant effects on higher performance and greater equity.
9. Movements to widen opportunity in secondary education and give access to students of a fuller range of certificates and career paths, although true comprehensive education is unlikely in the near future.
10. The emphasis on a broad education, including foreign languages.
11. Greater reporting and national and international research and benchmarking in education.
12. Overall, a general determination to move from rationalising about to addressing poor student performance, partly for national pride and for other reasons.

However challenges remain for Education in Germany, including:

1. The relatively large variation in between-school performance, possibly reflecting the 'tracking' that occurs in secondary education.
2. Gaining greater acceptance and take-up for true comprehensive education.
3. Addressing the high rate of grade repetition, if in fact this is problematic.
4. The gender gap in Mathematics, where boys outperform girls, although girls outperform boys on reading, with boys and girls comparable on performance in science.
5. Providing greater opportunities for students in the various 'tracks' to learn more formal mathematics and higher levels in other subjects such as science.
6. Addressing the shortages of mathematics teachers (although in 2003-2012 reported shortages of science and German language teachers declined) (Bloem, 2012: 10).
7. More fully engaging teachers in on-going professional learning and equipping and empowering principals to be more effective instructional leaders rather than administrators (Dinham, 2013).
8. Transferring some authority from the state to local schools yet dealing effectively with under-performing schools and balancing greater autonomy with greater accountability.
9. Providing greater availability of meaningful 'whole day' schooling, especially in primary education.
10. Continuing to address issues associated with disadvantage, refugees and migrants.¹⁸
11. Gaining greater alignment and collaboration between educational researchers, policy makers and practitioners.

Conclusion

Whilst challenges remain for education in Germany and educators and officials express dissatisfaction with the current performance of schooling, there are impressive features that contrast with the current state of education in Australia.

Overall, the education sector in Germany is highly valued, well-supported financially, tightly regulated and stable, yet it has shown itself to be responsive, serious about and capable of reform. The improvement in performance on international testing since 2000 is significant, despite the difficulties some within Germany continue to highlight. In this sense it seems that Germany is suffering something of an inferiority complex that is unwarranted.

¹⁸ Some have attempted to link the seemingly worsening situation of the behavioural climate in German classrooms with greater student diversity and inclusion (Bloem, 2012: 7-8).

Finally, the strong emphasis within German education on regulation, standards, evidence, reform and improvement appears preferable to the current situation in Australia where there seems to be a headlong rush to deregulate, dismantle and open (public but also private) education to market forces, without, or at times despite, available evidence, whilst overall performance and equity are declining (Dinham, 2014a; 2015).

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