AN OVERVIEW OF SCHOOL EDUCATION IN INDIA AND AUSTRALIA

 PREPARED FOR
Australia India Education Council (AIEC) Schools Working Group
and
Australia India Institute

BY

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EXECUTIVE SUMMARY

The differences between India and Australia are vast. India is a land of over 1.2 billion, while Australia's population has only recently reached 25 million. Australia has a strong economy, with high per capita income; and while India's economy has in the past two decades grown rapidly, it is still a poor income country, with a substantial section of its population still living in poverty. While almost everyone born in Australia is literate, the literacy rates in India are less than 75%, despite its major achievements over the past two decades.

Yet there are major points of connections between India and Australia. Both of their major legal, political and social institutions have their historical roots in Britain, including their systems of education. In recent years, India has become Australia's largest source of migration, and there are almost 100,000 students currently studying in Australian institutions of higher education. India and Australia enjoy close sporting and cultural links. Trade and investment across the two countries is also expected to greatly increase over the next few decades.

It is this context that this report on recent schools policies in Australia and India is located. It does not claim to provide a comparative account between the two countries because there are no common points of reference. Instead this report is structured around a set of common themes on which both India and Australia are currently focussed, albeit in ways that are remarkably different, in light of their different systems of policy development and implementation. Our approach is to juxtapose comments on related themes in the hope that this will drive greater understanding and suggestions for further research and collaborations.

What is evident throughout this report is that both Australia and India are currently pursuing major programs of educational reform, seeking to restructure their policy priorities and systems of educational governance -- partly in response to the pressures of globalization and economic restructuring but also in an effort to provide quality education to all of its citizens. This report is therefore based on the premise that an understanding of how each of India and Australia is addressing issues of educational reform can be of considerable benefit to both countries.

The overall aim of this research project is therefore to examine key policy issues relevant to both the Indian and Australian schools sector in an effort to determine similarities and differences, and points of connection between them. It is believed that this overview can serve to identify the priorities for future cooperation between India and Australia. In this way, it is hoped that the research will help inform and guide the development of the forward work programme for the AIEC Schools Working Group, with the framework of Australia's draft National Strategy for International Education.

Following an introductory chapter that provides basic information about systems of schooling in Australia and India, much of the discussion in this report is structured around a number of themes and policy issues. These themes were identified by AIEC Schools Working Group and were elaborated through the research process. These issues include: requirements of curriculum reform and development; conceptions of quality teaching and learning; mechanisms of assessment and reporting; approaches to professional standards and teacher training; challenges and opportunities of the new technologies; emerging issues of demography and rural education; demands of school leadership and development; and the possibilities of skills training at the secondary school level.
The data upon which this report is based is based largely on secondary sources: research and policy reports, academic books and articles and media commentary. Much of India-related material was collected in Kolkata by Dr Mousumi Mukherjee, while the Australian material was collected in Melbourne by Rosie Barron. Atiya Khan also assisted with chapters on technology and teacher preparation and development. A few interviews were also conducted with people with relevant expertise. Each chapter contains an extensive list of references, which we are hoping will assist researchers and policy makers alike.

In Australia, the issues examined in this report have been widely debated and researched, with a great many programs seeking to address them. In India, however, while these issues have also been vigorously debated, the research based on which various programs of reform have been based has been limited. By and large, teacher education institutions in India do not conduct research and the capacity to conduct institutional research and program evaluation is underdeveloped in India. Australian and Indian researchers could be encouraged to work together to develop this capacity.

Collaboration between India and Australia is also possible in a number of other areas, including the development of standards and benchmarking practices, especially with respect to teacher performance and organizational effectiveness. Much can also be achieved if the principals of leading schools in Australia and India were encouraged to work together to develop leadership and management skills relevant to their respective circumstances. The new synchronous media can now enable schools in India and Australia to collaborate on a whole range of pedagogic possibilities, contributing to the goals of intercultural understanding and global learning.

Although India has some outstanding teachers, the quality of its teacher education programs remains uneven, bordering on poor. Improving the quality of teacher training is a major priority for India, and is an area in which Australia, with its extensive experience in reforming its programs of teacher preparation, can most readily assist. One way of doing this might be through the development of a graduate program for the education of teacher educators. Such a program might be jointly developed and taught in blended modes, using new technologies, on-site seminars and workshops, international internships and school-based research training.

Over the past few years, attempts have been made to generate programs of collaboration between Indian and Australian schools through international visits. While these visits have been enjoyable for those participating, it is not clear if they have produced any substantive outcomes. International delegations are seldom helpful on their own: they need to have a clearer set of goals focused on collaborative activities that are based on the principles of reciprocity and mutual benefit and are sustainable in the longer term.
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Abbreviations:

Australia

ABC: Australian Broadcasting Commission
ABS: Australian Bureau of Statistics
ACARA: Australian Curriculum, Assessment and Reporting Authority
ACER: Australian Council for Educational Research
ACT DET: Australian Capital Territory Department of Education and Training
AEU: Australian Education Union
AIHW: Australian Institute of Health and Welfare (Federal)
AISWA: Australian Independent Schools of Western Australia
AITSL: Australian Institute for Teaching and School Leadership (Federal)
APST: Australian Professional Standards for Teachers
ATAR: Australian Tertiary Admission Rank (National)
BCA: Business Council of Australia
BOSTES: Board of Studies, Teaching and Educational Standards (NSW)
BYOD: Bring Your Own Device
CESE: Centre for Education Statistics and Evaluation (NSW)
COAG: Council of Australian Governments
DEC: Department of Education and Communities (NSW)
DEST: Department of Education, Science and Training (Federal)
DEECD: Department of Education and Early Childhood Development (VIC)
DER: Digital Education Revolution
DEEWR: Department of Education, Employment, and Workplace Relations (Federal)
DET: Department of Education and Training (Federal)
DETYA: Department of Education, Training and Youth Affairs
DSS: Department of Social Services
GFC: Global Financial Crisis
HEPPP: Higher Education Participation and Partnerships Programme
IB: International Baccalaureate
ITE: Initial Teacher Education
IWD: Interactive White Boards
KLA: Key Learning Area
MCEETYA: Ministerial Council on Education, Employment, Training and Youth Affairs
NAP: National Assessment Program
NAPLAN: National Assessment Program – Literacy and Numeracy
NCLB: No Child Left Behind
NSIP: National Schools Interoperability Program
NSSCF: National Secondary Schools Computer Fund
NSWDEC: NSW Department of Education
NSW DE: NSW Department of Education
NSW DEC: NSW Department of Education and Communities
OECD: Organisation for Economic Co-operation and Development
PAI: Principals Australia Institute
PISA: Programme for International Student Assessment
PIRLS: Progress in International Reading Literacy Study
QLD DET: Queensland Department of Education
RREAC: Rural and Remote Education Advisory Council (WA)
SAF: Skilling Australia for the Future
SSTUWA: State School Teachers’ Unions of Western Australia
STEM: Science, Technology, Engineering, and Mathematics
TAI: The Australia Institute
TEMAG: Teacher Education Ministerial Advisory Group
TIMSS: Trends in International Mathematics and Science Study
TISC: Tertiary Institutions Service Centre
TRBSA: Teachers Registration Board of South Australia
TTC: Trade Training Centres
UAC: University Admissions Centre (NSW & ACT)
VCE: Victorian Certificate of Education
VET: Vocational Education and Training
VIC DEECD: Victorian Department of Education and Early Childhood Development
VIC DET: Victorian Department of Education, Science and Training
VIT: Victorian Institute of Teachers
WA DE: Western Australia Department of Education

India

CBSE- Central Board of Secondary Education
ICSE- Indian Certificate of Secondary Education
NIOS- National Institute of Open Schools
IB- International Baccalaureate
NCERT- National Council of Educational Research and Training
SCERT- State Council of Educational Research and Training
NUEPA- National University of Educational Planning and Administration
NIPEA- National Institute of Educational Planning and Administration
NET- National Eligibility Test
SSA- Sarva Shikshya Abhiyan
DPEP- District Primary Education Program
NCF- National Curriculum Framework
MLL- Minimum Learning Level
RTE- Right to Education
NPE- National Policy of Education
NCF- National Curriculum Framework
DISE- District Information System for Education
UDISE- Unified District Information System of Education
DIET- District Institutions of Education and Training
ASER- Annual Status of Education Report
IATE- Indian Association of Teacher Educators
NCTE- National Council for Teacher Education
NCFTE- National Curriculum Framework for Teacher Education
NAAC- National Assessment and Accreditation Council
TET- Teacher Eligibility Tests
UGC- University Grants Commission
SLET- State Level Eligibility Test
Chapter 1

Introduction

Structure of schooling in Australia and Indian

1.1 Schooling is compulsory for all Australians between ages five and 15 to 17, depending on the laws of particular states and territories (Department of Social Services, 2016). The majority Australian school students attend preparatory school, before undertaking primary school, then secondary school, and most will spend 13 years in formal schooling. Australian schooling is divided into the government sector and non-government sector. The former refers to non-denominational schools that are funded by government, and the latter is comprised of Catholic and Independent schools (Australian Schools Directory, 2016).

Modern India's 12-year school system evolved in the 1970s. A uniform structure of school education, the 10+2 system, was adopted by all the states and Union Territories (UTs) of India following the National Policy on Education of 1986. It now consists of eight years of elementary education, two years of secondary education, and two years of higher secondary or pre-university education. Though free Anganwadis and Balwadis for poor children have been in existence since 1945, access to good preschool education is very much dependent on socioeconomic status. Similarly, the quality of school education also varies widely based on socioeconomic status.

Statistical information on schools and students

1.2 In Australia, the Australian Bureau of Statistics (ABS) (2016a) recorded a total of 9,404 schools in 2015, which marked the first increase in the national total since 2005. While most of these were within the government sector, this increase was driven by the non-government sector (ABS, 2016a). In the same year, the total number of Australian students recorded was 3,750,973, of which 65.2% (n=2,445,130) were enrolled in the government sector (ABS, 2016b). Aboriginal and Torres Strait Islander students made up 5.3% (n=200,563) of total school enrolments, with the largest amount of students in New South Wales (ABS, 2016b), and the highest proportion of students relative to the state total in the Northern Territory (ABS, 2016b).

There are 1,425,564 schools in India, according to statistics available from Indian Government's Ministry of Human Resource and Development. Below is the break-up of numbers according to levels of school.

<table>
<thead>
<tr>
<th>SCHOOL TYPE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUCATION</td>
<td>790,640</td>
</tr>
</tbody>
</table>
1.3 The total number of staff employed in Australian schools in 2015 was 466,867, of which 70.3% were teaching staff (ABS, 2016c). The majority of teachers are female, though proportions vary across schooling level and sector (ABS, 2016c), and across all Australian states, there is a higher proportion of male teachers in secondary schools (NSW Centre for Evaluation and Statistics, 2014, p. 29).

Table 2 below provides the number of teachers employed in Indian schools, along with an indication of their gender distribution and pupil-teacher ratio by type of institution in India.

<table>
<thead>
<tr>
<th>Type of Institution</th>
<th>Number of Teachers</th>
<th>Female Teachers per 100 male teachers</th>
<th>Pupil teacher ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>2684194</td>
<td>88</td>
<td>28</td>
</tr>
<tr>
<td>Upper Primary</td>
<td>2512968</td>
<td>83</td>
<td>30</td>
</tr>
<tr>
<td>Secondary</td>
<td>1286498</td>
<td>74</td>
<td>28</td>
</tr>
<tr>
<td>Senior/Higher Secondary</td>
<td>1785099</td>
<td>96</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 2: Source: MHRD, 2014, p. 8

Boards of examination and rates of completion

1.4 Students in Class 10 and Class 12 in India take external examinations administered by a State board or one of the three all-India boards- the Central Board of Secondary Education (CBSE), Indian Certificate of Secondary Education (ICSE) and National Institute of Open Schools (NIOS) to receive their exit credential. Of all the three National education boards, ICSE is a private, non-governmental board of school education in India. National Open School system provides students with a more flexible vocation-oriented curriculum. However, since the medium of instruction and study materials for all there all-Indian boards are in English, these are limited to those who study in English medium. In recent
years, there has been also a proliferation of International Baccalaureate (IB) schools, and schools taking Cambridge International Examinations.

In contrast with the three national examination boards, all State-board schools are run in local vernacular language medium. The credential representing the completion of secondary education is usually called Secondary School Certificate or Matriculation/Madhyamik Examination Certificate. The credential representing the completion of higher secondary education is usually called Higher Secondary Certificate, Senior School Certificate, or Intermediate Examination Certificate. The completion of higher secondary education gives access to university study, though many leading universities also require their own highly competitive entrance examination.

In 2015, there was a slight increase in Australia in the retention rates of students for the duration of secondary schooling, with 96.5% entering Year 11, and 84.4% entering Year 12 (ABS, 2016d). The proportion of retention from Years 7/8 to 12 is higher in the non-government sector than in the government sector (ABS, 2016d). The Australian rate of completion for upper secondary education is just above the Organization for Economic Co-operation and Development (OECD) average, and the performance of Australian students in literacy, mathematics, and science, as indicated by PISA results, is above the OECD average, with girls outperforming boys (OECD, 2015).

Data collected by the Indian Ministry of Human Resource Development shows that the participation rates in Indian schools at various levels, as well as graduation and literacy rates have been steadily increasing. There is continuous improvement across all categories, including students belonging to Scheduled Castes (SC) and Scheduled Tribes (ST). The retention rates have also increased, with girls outperforming boys. Just the same, patterns of social and educational inequalities persist in India, as indeed it does in Australia, though not as extensive.

**Educational disadvantage and policy responses**

1.5 The *Review of funding for schooling* (Gonski et al., 2011), colloquially referred to as the *Gonski Report*, identifies that while Australia performs relatively high in academic achievement in international comparisons, levels of equity are average (p. 106). This indicates that, in Australia, there is a closer relationship between student background and academic achievement than in other OECD countries. Factors associated with educational disadvantage include socioeconomic status, Indigeneity, English language proficiency, and disability at the student level, and remoteness at the school level (p. 111). For instance, lower levels of ability in reading and writing are also more prevalent for students living in very remote areas, and for those whose parents did not complete year 12 (Australian Social Inclusion Board, 2012, p. 43). Ability levels in literacy and numeracy are lower for Indigenous Australians than non-Indigenous Australians, as are rates of school attendance and retention (Australian Indigenous HealthInfoNet, 2009).
Approaches to ameliorating educational disadvantage for Aboriginal and Torres Strait Islander students align with a broader policy objective to ‘close the gap’ between Indigenous and non-Indigenous Australians in a variety of areas (Council of Australian Governments (COAG) Reform Council, 2009). These efforts tend to focus on ensuring pedagogy and curriculum is culturally responsive, and fostering greater engagement between schools and the parents of Indigenous students (Vass, 2012, p. 88). However, some argue that because schools and teachers might regard Indigenous students, families, and communities as in some way ‘deficient’, educational discrepancies are attributed to students’ home and community environments, rather than processes within the school (e.g. Vass, 2012; Hutchins, Martin, Saggers, & Sims, 2007).

In India, issues of inequality have attracted a great deal of attention from policy makers. These concerns have focused not only on class and caste but also gender. Quantitative statistics suggests that there is persistent gender disparity as well as disparity based on caste and tribal affiliations. School enrolments and access to schooling is still a challenge for historically marginalized groups within the Indian context. However, quite surprisingly school drop-out rate is higher for boys than girls, and success rate of girls in exams is also higher than boys.

This shows greater resilience of girls and historically marginalized groups within the Indian schooling system. This gender disparity and issue of exclusion based on not just gender, caste and tribal affiliation, but also based on religious affiliation and disability has been also highlighted in the recently released first India Exclusion Report (Center for Equity Studies, 2014) by an independent group of national and international scholars drawing data from both nationally reported statistics and international organizations, such as the UN.

<table>
<thead>
<tr>
<th></th>
<th>Literacy Rate (%)</th>
<th>Current Attendance Rate Among 5- to 14-year-olds (%)</th>
<th>Drop in Enrolment from Primary to Upper Primary Level (%)</th>
<th>Out-of-School Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>7/3</td>
<td>68.3</td>
<td>87.1</td>
<td>51.8</td>
</tr>
<tr>
<td>Girls</td>
<td>6/4.6</td>
<td>57.7</td>
<td>85.8</td>
<td>51.4</td>
</tr>
<tr>
<td>Dalis</td>
<td>6/6.1</td>
<td>58.5</td>
<td>85.2</td>
<td>54.4</td>
</tr>
<tr>
<td>Adavasis</td>
<td>5/8.4</td>
<td>55.4</td>
<td>81.7</td>
<td>58.5</td>
</tr>
<tr>
<td>Muslims</td>
<td>-/63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 8: Education Indicators of Major groups of Excluded Children (Source: Center for Equity Studies, 2014, p. 47)

<table>
<thead>
<tr>
<th></th>
<th>.7</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children with Disability</td>
<td>4</td>
<td>45</td>
<td>63.3</td>
<td>34.12</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Historical formation of schooling**

1.6 The formation of the Australian education occurred in the context of settler colonialism, overseen by the British Government. With the exception of some fee-paying schools for affluent families, prior to the mid-nineteenth century, Australian schooling was provided in various settings, and delivered by staff without formal training (Jones, 1974, p. 15). The establishment of formal public education across Australia was underscored by tensions pertaining to the roles of church and state (Austin, 1961). Each colony came to pass legislation popularly referred to as the 'free, compulsory and secular' acts (Jones, 1974, p. 20), which codified a commitment to non-denominational schooling, as well as the withdrawal of state funding for church schools (Sherington & Campbell, 2007, p. 16). This did not altogether remove religious influence in Australian government schooling, and some argue that a secular commitment has become less prominent over time (Meadmore, 2001; Byrne, 2013).

Colonial processes in Australia entailed the displacement and oppression of Indigenous populations, in which educational institutions played a significant role. In what is often referred to as the ‘Stolen Generation’, Aboriginal children were forcibly removed from their families and taken to missions alongside policies of ‘assimilation’ (Kidd, 1997). Furthermore, Indigenous Australians were often excluded from public education institutions until the mid-twentieth century (Sherington & Campbell, 2007, p. 17). These historical circumstances demonstrate the complexity of the relationship between educational disadvantage and Indigeneity, providing insight into the feelings of alienation or mistrust Indigenous Australians might hold towards Australian schooling (Hutchins et al., 2007; Sandri, 2013).

India already had an indigenous free residential schooling system in “Gurukuls” (homes of Hindu Brahmin teachers) when the European colonialists came to India. However, though they were not strictly restricted to students from diverse backgrounds, access to these schools was limited to mostly boys from higher socioeconomic-caste backgrounds. There was also indigenous provision for schooling for Muslim boys in “Madrasas”. Some historians claim that there were also separate home-based schools for women belonging to higher castes. The notion of public schooling to widen access to schooling for all began emerging within the Indian subcontinent with the advent of the European settler colonialists, missionaries and their interactions with native intellectuals, such as Raja Rammohan Roy (a Sanskrit scholar who was also well versed in the traditions of
European enlightenment) among many other native intellectuals, who sought western knowledge alongside nurturing Indian intellectual traditions (Allender 2006; Seth 2007; Bara 2000; Bellenoit 2014).

School funding

1.7 The British colonies were united as the Commonwealth of Australia in 1901, which led to the division of powers and responsibilities between federal and state levels of government (Australian Government, n.d.). While the funding of schools continues to be a shared responsibility, tensions pertaining to the degree of contribution persist between these levels of government (Hinz, 2015). The provision of government funding to non-government schools is a point of contention to which some express ardent opposition (Morsy, Gulson, & Clarke, 2014; Teese, 2015), particularly given that Australia has the "the highest proportion of private secondary education among the rich countries in the world" (Douglas, Friel, Denniss, & Morawetz, 2014, p. 20). These concerns have also emerged in relation to the development of 'Independent public schools' in Western Australia (WA Department of Education, 2016), and the proposed provision of government funding to support such a project at a national level (Savage, 2014).

The aforementioned Gonski Report (2011) argues that all governments should work to ensure that all students can achieve in education, regardless of their circumstances (p. 105). While it has been suggested that its recommendations support increasing federalism in school funding (Keating & Klatt, 2013), the Report also endorses the allocation of funding to support the decisions of schools at the local level (p. xxx). In doing so, it speaks to the notion of 'school autonomy', which has become increasingly prominent in these debates. This is exemplified at the state level in NSW’s Local Schools, Local Decisions reforms, which seeks to enhance the decision-making capacity of individual schools and principals (NSW Department of Education and Communities, 2011). However, Smyth (2011) argues that there is a relationship between efforts to enhance the 'local school management' and the privatisation of public schooling.

A hybrid system of education emerged in modern India since the late 18th and 19th century. There is a system of State-run government schools, private government-recognized aided schools, private government recognized unaided schools, and government unrecognized private for-profit schools, Not-for-profit NGO-run schools, Christian missionary run schools and Islamic Madrasas.

According to the 42nd amendment of the Indian Constitution in 1976, education was included in the concurrent list under joint authority of the Center and the State governments. However, it has been critiqued that this amendment led to increased centralization in the education sector. Placing education in the concurrent list gave Central government of India dominating authority over the individual State governments, to set up educational priorities. It gave authority to the Central government to:
• Determine the policies, priorities and programs relating to education.
• Provide effective leadership to the States
• Provide funds for educational development in the States
• Take steps for minimizing regional imbalances in educational development and for equalization of educational opportunities in various States
• Take steps for promoting National integration through education
• Carry out uniform educational reform across the country

Hence, despite the diverse kinds of schools and school boards within India, in 1961 The National Council of Educational Research and Training (NCERT, Hindi: राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्), was established by the Indian government as a National organization, located in New Delhi to assist and advise the central and state governments on academic matters related to school education.

**Recent policy issues and reports**

1.8 Over the past 30 years, the Australian Federal Government has published a series of ‘declarations’ that have outlined a number of objectives for Australian education (MCEETYA, 1989; DETYA, 2000). The most recent, the *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA, 2008), decrees that “Australian schooling promotes equity and excellence” (p. 7), and enables students to become “successful learners, confident and creative individuals, [and] active and informed citizens” (p. 7). This document distinguishes itself from previous declarations by placing emphasis on globalisation and rapid technological advances, gesturing to global challenges and opportunities for collaboration with other nations (pp. 4-5).

Basu (1987) notes, the notion of education for all at the primary level only emerged as a directive principle in Article 45 of the Indian Constitution, to be progressively realized over a period of 10 years. Article 45, of the Constitution of India originally stated:

> The State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years.

This article was a directive principle of State Policy within India. However, successive governments following independence could not implement it, often due to the lack of resources or political determination.

Following the global declaration of “Education for All” (EFA) that the Indian Government finally established its flagship Sarva Shikshya Abhiyan (SSA) [Hindi: सर्व शिक्षा अभियान] program, which only became operational in 2000-2001, mandated by the 86th amendment to the Constitution of India making free and compulsory education for children of 6-14 years of age as a Fundamental Right.
However, some tentative attempts to promote universal primary education at the policy level had begun earlier. In 1993-94, for example, a community-based District Primary Education Programme (DPEP) was set up over several phases. It now covers 272 districts and 18 states of the country. The expenditure on the program was shared by the Central Indian Government (85%) and the State Governments. However, the Central government’s share was provided by a number of external agencies, including the World Bank, DFID and UNICEF (Jalan and Glinskaya, n.d.). In May 2014, the World Bank once again granted $1 Billion loan to the Indian Government for its flagship Sarva Shikshya Abhiyan (SSA) program to promote “Education for All”, since public investment in education by the Indian government continue to be very low compared to other developing and developed economies, despite the growing Indian economy in recent years. Successive Indian governments could not meet the National Common Minimum Programme (NCMP), i.e. investment of at least 6% of GDP to support education.

However, in recent years due to advocacy from several national and international organizations, the government has begun conversations to increase educational investment to meet the NCMP. It is also necessary now to implement the Indian Government’s recent Right to Education Act, 2009 which in now in the implementation phase since 2010. Several provisions to improve school infrastructure to provide increased access to quality education for all children needs more systemic and increased investment by the government. With this new RTE Act, India became one of 135 countries to make education a fundamental right of every child between the age of 6 and 14 when the act came into force on 1 April 2010.

The Right to Education Act also required all private schools to reserve 25% of seats to children from poor socioeconomic and disadvantaged backgrounds. The cost of educating these children is to be reimbursed by the state as part of the public-private partnership plan. The Act also prohibited all unrecognised private schools from practice. It made provisions for admission with no donation or capitation fees and no interview of the child or parent by private school authorities. The Act also made it mandatory that no child shall be held back, expelled, or required to pass a board examination until the completion of elementary education. There is also a provision for special training of school drop-outs to bring them up to par with students of the same age.

However, there has been lot of issues with the implementation of this Act over the first five years during the implementation phase. Researchers have highlighted wide-spread disparity in implementation, poor pattern of funding reimbursement by the government and persistent social prejudice against the inclusion of children from marginalized socioeconomic backgrounds into private English medium schools. (Srivastava & Noronha 2014a & 2014b; Thapliyal 2012)

The current NDA government in India is now also seeking consultations to formulate a new National Education Policy. The National Policy on Education was first formulated in 1986 and then modified in 1992. Over the years several changes have taken place within the context of the country and globally. The Government of
India is now seeking to revise the old National Education Policy to meet the changing dynamics of the population's requirement with regards to quality education, innovation and research, aiming to make India a knowledge superpower by equipping its students with the necessary skills and knowledge and to eliminate the shortage of manpower in science, technology, academics and industry.

For this purpose, 33 themes have been identified for discussions under this Group. Out of these 33 themes, 13 themes are divided separately for the School Education. Here are the themes in consultation for school education:

- Ensuring learning outcomes in Elementary Education.
- Extending outreach of Secondary and Senior Secondary Education.
- Strengthening of Vocational Education.
- Reforming School Examination systems.
- Re-vamping Teacher Education for Quality Teachers.
- Accelerating rural literacy with special emphasis on Women, SCs, STs & Minorities through Adult Education and National Open Schooling Systems.
- Promotion of Information and Communication Technology Systems in School and Adult Education.
- New knowledge, pedagogies and approaches for teaching of Science, Maths and Technology in School Education to improve learning outcomes of students.
- School standards, School assessment and School Management systems.
- Enabling Inclusive Education – education of SCs, STs, Girls, Minorities and children with special needs.
- Promotion of Languages.
- Focus on Child Health

[See: MHRD, n.d.).]

This list of education policy priorities in India provides a useful framework within which it is possible to identify areas of collaboration with Australian systems of education.

National curriculum developments

Over the past decade, a National Curriculum to be implemented in all Australian states and territories has been in development (ACARA, 2013). The first version of an overview was published in 2009, and reflected the goals outlined in the Melbourne Declaration (National Curriculum Board, 2009). Since this time, it has become a point of debate in educational scholarship (e.g. Atweh & Singh, 2011; Lingard & McGregor, 2014), and has been the subject of a formal review undertaken by the federal government during the Abbott administration (Donnelly & Wiltshire, 2014). The report derived from this review provides a critique of the volume of content, the organisation of content, and the
content itself, arguing that the curriculum is overcrowded and marked by ideological bias (p. 3).

The organisation responsible for the development of the National Curriculum also oversees the delivery of the National Assessment Program, commonly referred to as NAPLAN. This program entails standardised tests to be completed in literacy and numeracy by all Australian students at different points of schooling (NAP, 2013). The results of schools are published on an online database known as My School, which is designed to provide the public with information on the performance of particular schools, and Australian education more broadly (My School, 2016). The development of this testing regime has been controversial, as concerns have been raised the pressure these processes might place on teachers and students (e.g. Howell, 2012; Gannon, 2013).

The National Council of Education Research and Training (NCERT) formulated the first Curriculum Framework in 1975 as a recommendation to the individual states. NCERT was accorded the responsibility of developing a binding National Curriculum Framework through the National Policy on Education (NPE) (Government of India, 1986). NCERT reviews the curriculum every five years on the basis of consultations within the whole school sector. The core areas of the curriculum are common. Teaching of English is usually compulsory in classes VI-X in most of the states/UTs.

However, since its inception of NCERT there has been resistance across the country against the implementation of a National Curriculum Framework within such a diverse and hybrid schooling context, such as India. Hence, in 1986 National Policy on Education recommended the creation of State Council of Educational Research and Training (SCERT) in each State as a measure of decentralization of functions of quality education, research and training. SCERT, Delhi, was set up as an autonomous body under the Societies Registration Act in May, 1988.

The National Curriculum Framework 2000 brought forward the concept of the Minimum Levels of Learning (MLLs) identifying certain essential levels of learning for each stage of school education. The National Curriculum Framework 2005 points out the need for plurality and flexibility within education while maintaining the standards of education in order to cover a growing variety of children. The Framework recommends that learning shifts away from rote methods and that the curriculum reduces and updates textbooks. Peace education is included as a dimension in education. The new curriculum proposes a broader spectrum of optional subjects, including the revalorization of vocational options. Courses may be designed to offer optional modules, rather than trying to cover everything and overfilling courses too much. The National Curriculum Framework 2005 also proposes changes within the examination system (examinations for classes X and XII) allowing reasoning and creative abilities to replace memorization. The children should be able to opt for different levels of attainment.
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Chapter 2

Curriculum reform and development

Brief historical notes on the curriculum

2.1 In Australia in the late 1960s and 1970s, school curriculum emerged as a vital issue for particular political movements, as they sought to harness its potential to pursue agendas of social justice and equality (Yates, 2011, p. 27). For instance, the increasing prominence of feminist voices in educational matters in this period saw the proliferation of curriculum initiatives “informed by non-sexist and equal opportunity principles” (McLeod, 1998, p. 434). However, these developments became displaced in the 1980s and 1990s by concerns for Australia’s capacity to compete in the global economy, bolstered by the growth of international comparisons on the educational performance of different countries (Yates, 2011, p. 29).

Savage and O’Connor (2015) associate these anxieties with a re-imagining of education “for its role in human capital building” (p. 613), for which the ‘national’ was understood as an appropriate and efficient site to act (p. 613). This is significant, as while school curriculum in Australia had long been the responsibility of respective states and territories, the Commonwealth Government sought a more prominent role in recent decades (Yates & Collins, 2010, p. 89). This is most explicit in the ongoing development of the Australian Curriculum, which seeks to standardise content and outcomes for Australian students across all year levels and jurisdictions (ACARA, 2010-2016a). However, there have been other instances in which the Australian federal government has attempted to claim a greater stake in curriculum matters.

During his appointment as Federal Minister for Education from 1987-1991, John Dawkins took action towards establishing a common curriculum framework, to which the states agreed (Yates & Collins, 2010, p. 91). Dawkins released a policy statement that stirred debates about differences in educational achievement between Australian jurisdictions, suggesting that national improvements were necessary for enhancing Australia’s global economic performance (Savage & O’Connor, 2015, p. 614). This approach to a national curriculum involved the productions of overarching ‘Statements’ for each key learning area (KLA), which proved highly problematic, as KLAs were understood and enacted in different ways across jurisdictions (Yates & Collins, 2010, p. 91). Nonetheless, these statements came to influence curriculum documents of all states in the late 1990s (Savage & O’Connor, 2015, p. 615).

Following this, discussions of a national curriculum became less prominent until the mid-2000s, at which point they were revitalised by the conservative Liberal prime minister, John Howard (Savage & O’Connor, 2015, p. 616). While taking a vastly different approach to curriculum content, the subsequent Labor Government led by
Prime Minister Kevin Rudd accelerated the development of the National Curriculum. This is because as it was a key component of Labor's policy platform for an ‘Education Revolution’ in the 2007 federal election that elevated the party to office (Savage & O'Connor, 2015, pp. 616-617).

Once more, all Australian states and territories agreed to the objective of national consistency, the organisation responsible for the curriculum, ACARA, was established through an act of federal parliament (ACARA, 2008), and work on the Australian Curriculum commenced. Unlike previous attempts, considerable emphasis was placed upon consultation and collaboration in this approach, and ACARA embarked on a multi-phase process of liaising with various experts and stakeholders to disseminate overviews of the curriculum’s progression for discussions, as well as a number of versions (Savage & O’Connor, 2015, p. 617). The most current instalment of the Australian Curriculum is Version 8.1, and Australian states and territories are transitioning into its implementation from a previous version, Version 7.5 at varying rates (ACARA, 2010-2016b).

Schools in modern India follow either the three central board (CBSC, ICSE, and NIOS) curriculums or the local State board curriculum. NCERT (National Council for Educational Research and Training) was set up in 1961 to advise the various central and State boards about school curriculum. For this purpose the NCERT also began publishing school textbooks in various subjects. When NCERT was first set-up after independence, it was supposed to take a scientific perspective in keeping school curriculum focused on contemporary issues with the goal of Nation-building. The aim was to make the school curriculum, especially in history and social studies reflect the constitutional values and ideals of a modern secular Nation-State with equal rights and duties for all, irrespective of ethnic and religious differences.

National integration and unity in diversity were the values intended to be embedded in the curriculum. However, from the very beginning since the 1960s, NCERT as a National apex-body has faced political pressure from the politically right-wing "Hindutva" lobby within India. The biggest controversies have been in the re-writing of history textbooks. Often the NCERT curriculum has been critiqued by scholars as seeking to "saffronize" the curriculum to promote the religious values and ideals of the politically powerful upper-caste of the majority Hindu population.

On the contrary, the politically left-wing historians and writers representing the constitutional ideals in school textbooks have been critiqued by the politically right-wing postcolonial Hindu Nationalists as being influenced by culturally alien Marxist historiography. This has led to conflicting ideologies being reflected in the textbooks which have been revised several times based on the ideology of the central government in power. Often feminists and other minority activist groups have also critiqued these textbooks for misrepresenting women and those belonging to politically less powerful minority religious and ethnic groups in the textbooks (Jaffrelot, 1996; Kamat, 2004; Mukherjee & Mukherjee, 2001; Nair, 2009; Thapar, 2014; Visweswaran et al., 2009; Yadav, 1974).
Recent developments in curriculum thinking

2.2 This section covers recent developments in Australia in terms of curriculum pressures, thinking, and management, and is organised into four sections. The first two cover normative questions of the values informing the objectives and content of the curriculum, the third speaks to debates surrounding approaches to its construction and organisation, and the fourth pertains to its management and tensions between federal and state responsibility.

As Yates and Collins (2010) explain, curriculum is often understood as “a shaper of the person” (p. 90), and this is evident in debates about the objectives of the Australian National Curriculum and what kind of future it should prepare young Australians for. For instance, a tension resides between a more politically conservative view of curriculum that emphasises economic imperatives and national testing (Durbridge, 2009, p. 6), and the aforementioned activity in the 1970s that sought to mobilise curriculum for social justice agendas. The former line of thought has been prevalent in curriculum development over the past few decades, and was a prominent feature of the Howard Government’s support for a national curriculum (Harris-Hart, 2010, p. 304).

Reid (2011) associates approaches to educational issues under Howard with neoliberal ideology that he argues abandon ideals of equity in favour of free-market principles (p. 55). However, Savage and O’Connor (2015) complicate this by suggesting that curriculum reforms that respond to concern for global economic performance may mobilise a new understanding of ‘equity’ as commensurate with an agenda of “ensuring young people are economically competitive” (p. 610). As Lingard and McGregor (2013) demonstrate, an approach to curriculum that subscribes to notions of education as developing human capital for Australia’s economic future can still accommodate critical perspectives on social justice. However, they argue that the emphasis on accountability underscoring the development of the current Australian National Curriculum has compromised, if not jettisoned, the scope for such approaches (p. 179).

Concerns of ideological bias are an ongoing theme in curriculum debates, particularly in relation to the History curriculum. This is exemplified in a recent review of the Australian Curriculum, in which criticism was levelled at the emphasis placed upon Indigenous histories and cultures, and a failure to adequately attend to “the impact of Western civilisation and Judeo-Christianity on Australia’s development” (Donnelly & Wiltshire, 2014, p. 5). This has been an enduring controversy, manifesting in a series of impassioned debates colloquially referred to as the ‘History Wars’ (MacIntyre & Clark, 2003), in which the notion of a ‘black armband’ view of history was popularised. This view, promulgated by conservative commentators (e.g. Donnelly, 1997; Windschuttle, 2002) and Prime Minister John Howard himself, denotes a version of Australia’s past that overemphasates the injuries inflicted on Indigenous populations at the expense of acknowledging conceptions of ‘progress’ afforded by colonial processes (Parkes, 2007). However, while arguments of the dominance of Left ideology in curriculum continue to proliferate (e.g. Cater,
2014; Forrest, 2014), so too do claims that the current Coalition Government’s intervention into the National Curriculum smacks of conservative political bias (e.g. Adoniou, Louden, Zyngier, & Riddle, 2014; Taylor, 2014).

Biesta and Priestly (2013) identify that this emphasis on economic arguments and measurable outcomes is widespread in Western countries, but suggest it sits in tension with other trends in the conceptualisation and practice of curriculum (p. 182). Some of these include a return to constructivist notions of ‘child-centred learning’, and heightened importance being attributed to the role of the teacher in curriculum making (p. 182). Yates and Collins (2010) suggest that these conflicting influences contribute to a juxtaposition between developing curriculum in a more conceptual form, exemplified in the aforementioned production of ‘Statements’ for each KLA, and in a more instrumental manner, expressed in terms of ‘competencies’ and ‘capabilities’ (p. 90). However, they argue that both of these approaches tend to relegate ‘disciplinary knowledge’ to the sidelines, in turn failing to acknowledge the epistemological and pedagogical nuances specific to different subject areas (p. 90).

The balance of responsibility between federal and state governments, and the move to federalism in curriculum matters has proved contentious. Harris-Hart (2010) suggests that, although the development of the Australian curriculum provides a veneer of co-operation between these levels of government, this has been marked by ongoing tensions pertaining to funding and accountability measures (p. 308). This relates to the funding arrangements for Australian schooling more generally, which dictate that, while schools are owned and operated by state governments, they are jointly funded by state and territory governments, as well as the Commonwealth (Department of Education and Training, 2015). However, Savage and O’Connor (2015) suggest that the greater capacity of the Commonwealth to raise revenue has contributed to a relationship of dependency, which has “opened the way for greater federal intervention in state education” (p. 619).

The work of NCERT and role of textbooks in India has been often critiqued as highly politicized, rather than being an useful teaching tool. Stöber (2007) writes, "The role of the books as teaching media - their use(fulness) by (for) pupils and teachers - are often excluded from these political and public disputes.” However, in recent years there has been significant shift. Despite controversies over the content of social science (Civics, Geography, and especially History) curriculum; the National Curriculum Framework (NCERT, 2000) brought forward the concept of the Minimum Levels of Learning (MLLs). MLL identified certain essential levels of learning for each stage of school education.

The National Curriculum Framework 2005 points out the need for plurality and flexibility within education while maintaining the standards of education in order to address the learning needs of children. The Framework recommends that learning shifts away from rote methods and that the curriculum reduces and updates textbooks. Human Rights and Peace education is included as a dimension in education. The new curriculum proposes a broader spectrum of optional subjects, including vocational options. Courses may be designed to offer optional modules,
rather than just trying to cover prescribed syllabus. The National Curriculum Framework 2005 also proposes changes within the examination system (examinations for classes X and XII) allowing reasoning and creative abilities to replace memorization. The children should be able to opt for different levels of attainment.

**Major stakeholders**

2.3. Biesta and Priestley (2013) posit that, worldwide, there is greater acceptance of the prominence of government as an authority on school curriculum, as opposed to that of teachers or schools (p. 183), and this is demonstrable in the Australian developments outlined. While the development of the National Curriculum exemplifies an explicit attempt by the Commonwealth to attain greater input in this area, it has previously attained influence through other mechanisms, such as the production of standardised national educational programs or frameworks on particular issues (Yates, Collins, & O'Connor, 2011, p. 11). Savage and O'Connor (2015) suggest the emphasis placed on cooperation and consultation in the development of the National Curriculum reflects an attempt to dissociate the process from the divisions that emerged in previous attempts at establishing consistency (p. 617). ACARA’s attention to this is evident in their commitment to constructing each curriculum area from a ‘blank page’, rather than to compile existing curricula, and to leave room for ‘flexibility’ in its adoption in different states and schools (McGaw, 2014a, n.p.).

As aforementioned, the development of the Australian Curriculum involved wide consultation with stakeholders from within and beyond the field of education, with the advice derived from this subjected to independent analysis (McGaw, 2014a, n.p.). According to ACARA (2009), key stakeholder groups include “teachers, school leaders, students, professional associations, universities, teacher unions, parents, industry groups and education authority officers” (n.p.). Given Australia’s ‘sector diversity’ in schooling, representatives from public, independent, and Catholic schools were represented in both ACARA and its predecessor, the National Curriculum Board (Yates, Collins, & O’Connor, 2011, pp. 9-10). However, concerns have been raised about the degree of input afforded to stakeholders in the field of education. For instance, Macpherson and Brooker (2000) emphasise the importance of efforts to enhance the voice of teachers in curriculum leadership, and Fensham (2013) argues that, in the area of science, the expertise of academics and educators has become markedly less influential over time.

While industry groups have had substantial input into matters of curriculum, ‘think tanks’ have played a less prominent role than in the U.S. (Savage & O’Connor, 2015, p. 625). Aligned with a general growth in partnerships between governments and private corporations in rolling out policy initiatives in education (Hogan, 2016, p. 94), ‘edu-businesses’ garnered significant influence, demonstrated in ACARA’s decision to contract Pearson Education for the development of national assessment materials (Savage & O’Connor, 2015, p. 626).
The National Council of Educational Research and Training (NCERT) was established in 1961 by the Government of India by combining a number of existing organisations. It is an autonomous body in principle. However, it is Government-funded and its Director is appointed by the Ministry of Human Resource Development (formerly Ministry of Education). In practice, the NCERT has operated as a semi-official organisation promoting a "State-sponsored" educational philosophy. The National University of Educational Planning and Administration (NUEPA, formerly known as National Institute of Educational Planning and Administration- NIEPA), an autonomous research University funded by the Indian government also plays a major role in crafting major reports and recommendations along with NCERT.

NCERT within the Indian context serves primarily serves a National advisory body to steer the curriculum and policies of the three national school board- CBSE, ICSE and NIOS and the local State boards of education in each State. Since 1986, NCERT's National Curriculum Framework has been seeking to advise the National and local State boards about various pedagogical issues- content, modes of instruction and assessment.

Recent curriculum documents

2.4 As aforementioned, the national declarations of educational goals have been of critical importance in the development of the Australian national curriculum. The Hobart Declaration (MCEETYA, 1989) was published during Dawkin's push for a national curriculum, “and announced an intention to establish a national curriculum agency as a first step” (Savage & O’Connor, 2015, p. 614). Two decades later, the Melbourne Declaration (MCEETYA, 2008) outlined national goals for schooling that informed key features of the development of the current Australian National Curriculum.

In 2014, a review of the national curriculum, to which over 1,500 submissions from a variety of sectors were made, raised expressed criticism for several features of its form and content (Donnelly & Wiltshire, 2014). The appointment of Kevin Donnelly and Ken Wiltshire as reviewers by the Federal Minister for Education, Christopher Pyne, caused significant controversy, often due to perceptions of Donnelly as “arguably... the most outspoken and ideologically driven public figure in curriculum debates of the past decade” (McPhee & Savage, 2014, n.p.).

In their report, Donnelly and Wiltshire took great issue with what they argued was an ideological bias in the curriculum, causing particular views on history and pedagogical approaches to be privileged at the expense of more conservative perspectives (p. 5). The report contains sustained criticism of the ‘cross-curriculum priorities’ featured in the Australian Curriculum, both in terms of their ideological bent, and the ways in which they were to be ‘embedded’ by teachers across KLAs (p. 134). While ACARA stresses that this is not mandatory, and the ways in which this is approached “is a matter for schools and their jurisdictions” (McGaw, 2014b, p. 18),
Donnelly and Wiltshire argue that their inclusion contributes to a confused and over-crowded curriculum (p. 135).

The first National Policy of Education (NPE) and National Curriculum framework (NCF) was crafted by NCERT in 1986. Since then the NPE and NCF has been through many revisions. The recent NDA government is once again seeking consultation for new National Education Policy. Apart from NCERT, a range of public consultations have been also made through UNESCO-MGIEP. In fact, significant efforts towards specification of Minimum Levels of Learning (MLLs) had already been made at the NCERT during 1978 in connection with the UNICEF-assisted projects on 'Primary Education Curriculum Renewal' and 'Developmental Activities in Community Education and Participation'. Against this background, the Department of Education, Ministry of Human Resource Development, Government of India set up the committee on Minimum Leaning Level (MLL) vide order No. 74/3/89- Desk (TE) dated 5 January 1990.

The need to lay down Minimum Levels of Learning (MLL) emerges from the basic concern that irrespective of caste, creed, location or sex, all children must be given access to education of a comparable standard. The major focus of the policy formulation behind the MLL exercise is upon equity and reduction of existing disparities. The effort is to combine quality concerns with concerns for equity keeping in view the developmental needs of children from the disadvantaged and deprived sections of the society, the dropouts, working children, and girls, who constitute the majority of school-going age population in this country, and to whom, in all likelihood, at least for some time to come, primary education will be the only opportunity for structured learning. This basic concern underscores the approach adopted by the committee in defining the minimum levels of learning.

Two basic considerations kept in view while formulating the MLLs are: (i) the cognitive capabilities of the children at different classes or grades corresponding to different stage of development; and (ii) the empirical reality in terms of the enabling environmental conditions that characterize the primary education programmes.

The MLL exercise should, therefore, be viewed as part of a larger curriculum reform endeavour attempting to move towards greater relevance and functionality in primary education. The implications of this exercise are:

- lightening the curriculum of its textual load and also the burden of memorizing unnecessary and irrelevant facts;
- leaving room for the teacher to relate textbook information and objective reality into a meaningful process of understanding and application;
- ensuring the acquisition of basic competencies and skills to such a level where they are sustainable, and would not easily allow for relapse into illiteracy;
- permitting mastery learning not only by the brighter students in the class but also by almost all children including the first generation learners.
The MLL provided guidelines for minimum level of learning in language, math and environmental studies along with a scheme for learner evaluation. The MLL also gave emphasis to the role of parent and community with respect to the non-cognitive aspect of student learning and stressed the need for regular parent-teacher meeting for an integrated holistic education, involving both cognitive and non-cognitive development of the child (Source: Minimum levels of learning: An introduction, n.d.).

**Emerging priorities and points of convergence**

2.5 The aforementioned cross-curriculum priorities include “Aboriginal and Torres Strait Islander histories and cultures... Asia and Australia’s engagement with Asia... [and] sustainability” (ACARA, 2010, p. 20). Aligned with the Federal Government’s Industry, Innovation and Competiveness, and National Innovation and Science agendas, digital literacy and STEM in curriculum have attracted renewed attention and substantial Commonwealth funding for school-based programs (DET, 2016a). As part of the Students First package, the Federal Government also seeks to increase the availability of foreign languages curriculum (DET, 2016b).

As aforementioned, since the 1980s, aspects of Australian curriculum reform have reflected concerns about a ‘globalising world’ and Australia’s capacity to compete in the global economy, and this has an intimate relationship with the proliferation of international comparative testing regimes (Savage & O’Connor, 2015, p. 609). Biesta and Priestley (2013) emphasise the influence of international bodies such as the OECD, challenging claims that their PISA assessment program falls outside the bounds of school curriculum, as its impact has been on curriculum reform in Western nations has been indelible (p. 184). Such concerns are also manifest in the prevalence of ‘policy borrowing’ (Lingard, 2010), identifiable in the similarities between Australia and the U.S.’s concurrent shifts towards national consistency in curriculum (Savage & O’Connor, 2015, p. 613).

The curriculum priority as evident from the National Curriculum framework 2000 & 2005, as well as the MLL recommendations highlight an obvious focus on achieving the goals of education for all by putting emphasis on a more child-centered and human rights oriented curriculum. As already mentioned before, the NCF 2005 also gives emphasis on peace education. These curricular approaches might appear to converge with some of the global priorities on intercultural education and child-centered pedagogy. However, within the Indian context, these issues are as much local as global. Local actors within organizations, such as NCERT and NUEPA (National University of Educational Planning and Administration, formerly NIEPA-National Institute of Educational Planning and Administration) have been involved in the process of crafting the National Curriculum framework and MLLs based on their research and understanding of local needs.
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Chapter 3

Quality teaching and learning

Brief historical remarks about teaching and learning

3.1. Gardiner (2004) provides an overview of the introduction of formal teacher training courses in Australia, which followed the establishment of grammar schools in the 1830s. Prior to this, teaching was performed by members of the public, some of whom were convicts. Training was delivered to both prospective and practicing teachers in Anglican schools, which involved a three-month training course, followed by a practicum experience, before they entered the teaching workforce. However, the continuation of these developments were temporarily obstructed by economic depression, and it was not until 1847 that two educational boards were established, one for denominational schools and one for non-denominational schools.

These authorities moved to establish Fort Street Model School in Sydney in 1850, which was the “the foundation for the ‘dominance of state-provided teacher preparation in Australia’” (pp. 28-29), though, due to demand for teachers it was only undertaken by half the teachers in the colony of NSW. This meant that, while the principal of Fort Street, William Wilkins, sought to shift from the apprenticeship style derived from English practice to introduce a ‘teacher-pupil’ model, and incorporate European theories of learning, ‘traditional’ methods of teacher-directed teaching remained popular. However, as concerns about the quality of teaching grew, NSW, SA, and VIC introduced teacher training that involved a ‘teacher-pupil’ model, in which candidates studied in a number of areas and completed exams, but also an apprenticeship year of teaching in a school (Gardiner, 2004, pp. 29-30).

Green and Reid (2012) suggest that the more ‘progressive’ approaches to pedagogy gaining popularity in the early twentieth century continued to reflect British influence, as “the new teacher was a crucial figure in nation-building” (p. 362). Conceptions of a ‘New Education’ that was more aligned with ‘character development’, and involved a move away from a distant teacher-student relationship grew in currency in Australian teacher education, and was underpinned by democratic notions of nation building, in which the teaching of English was key (p.366).

Within the Indian context teaching and learning has a long tradition which pre-dates colonial period. There were traditional small village schools- i.e. Hindu Brahminical Gurukuls, Islamic Makhtabs and Madrasas, and Buddhist Viharas. These were free schools run at the homes of teachers, or inside temples and mosques and Buddhist monasteries. The pedagogy followed in these schools was that of “rhyming, listening and analyzing of hymns” based on instruction from the teacher. Studies mostly involved “religious scriptures, philosophy, literature, astronomy and mathematics, physical, medical and occupational sciences” (Diwan 2015, p. 189). Though the
doors of these schools were open to all, as it is claimed by some scholars, such as (Diwan 2015), few students actually availed formal education.

The teaching and learning process was directed by the learned and experienced teachers “Gurus”. However, the focus of education was on student learning, their needs and aptitudes. A major shift came during colonial times. East India Company’s colonial policy of maximizing land revenue led to the Indian education system facing starvation in its financial resources. As patrons of the Gurukuls, Makhtabs and Viharas - i.e local Kings and Monarchs faced increasing pressure of taxes imposed on them by the colonial government, it led to the small village schools facing financial crisis being held in shabby dwellings with ill qualified teachers and absence of primary facilities (Diwan 2015). Moreover, with the massification of the education system, the focus gradually shifted from student learning to test-taking and rote-memorizing, rather than analyzing.

**Quality in teaching and learning**

3.2 In Australia, debates on quality teaching and learning are often very public, and arguments put forth in mainstream media by relevant stakeholders. This can be seen in television programs in which politicians, academics, and social commentators are invited to debate such issues, such as Q&A (ABC, 2015) and The Project (Ten Network, 2016). Opinion pieces in news publications are also a popular medium for these actors (e.g. Bantick, 2015; Buckingham, 2016).

Reports by professional organisations such as unions and schools associations have emerged as a significant site for debates on teacher quality (e.g. Fitzgerald, 2013; Association of Independent Schools of SA, 2010), as well as private sector organisations, such as ‘think tanks’ (e.g. Jensen, 2010; Stanley & Allen, 2014). Skourboumbis (2014) suggests that reports produced by the latter are often favoured by policymakers. While think tanks of various political persuasions have provided commentary and recommendations on educational policy (Loughland & Thompson, 2016; Reid, 2016), libertarian organisations in particular have invested heavily in efforts to influence Australian policy on a broader scale (Hart & Vroman, 2008, p. 141). Lingard (2016) identifies how, in addition to releasing reports, this has been achieved through the appointment of members of these organisations to government bodies on educational issues, such as AITSL (p. 31).

Government publications are another key medium in debates about teacher quality, as demonstrated in the exorbitant amount of government reviews undertaken on teacher education (Louden, 2008; Mayer, 2014). In addition to expressing the views of the government of the day, these reports often involve wide consultation with stakeholders such as relevant government bodies, professional organisations, and unions, as well providing such actors with an opportunity for submissions to be contributed (e.g. DEST, 2005; TEMAG, 2014). The views of politicians are also discussed in news media (Hurst, 2013; Maiden, 2013).
Much of the debates on quality of teaching and learning in contemporary India centers on the detrimental effect of rote-memorisation for test-taking. However, these debates are centuries old and arguments against this mainstream practice can be found particularly in the work of two Indian educational philosophers, Rabindranath Tagore and J. Krishnamurti, who were school-drop-outs during colonial times. In fact, Tagore traced the root of too much focus on memorization with language issues in education on colonial subjectivity of the native Indians during colonial times to pass exams for coveted jobs as colonial government civil servants. Tagore once wrote in an essay, "Yet I cannot admit that this is due to any inherent defect in our natural powers. There was a long period in the past, during which the science of healing with us was a living growth...we did not merely learn by rote, but made our own observations and experiments; that we tried to discover principles and build hypothesis and apply them to life. Where has this initiative and courage of ours departed? Why do we tread so carefully and so fearfully, under the load of our learning? Is it because we were born to be serfs, and permanently bending under the burden of another's intellectual acquisitions?" (Tagore 1919). These observations made by Tagore and questions raised as a philosopher is also supported by Seth's (2007) historical research on the impact of western education on the people during colonial India.

**Links between the global and the national**

3.3 In Australia, a number of perspectives on teacher quality have been popularised at different points. Strong characterises recent conceptions of teacher quality within the following categories: measurable in terms of qualifications and 'competence'; concerned with personal and psychological attributes, and identifiable in attitudes and values; concerned with performance in relation to pedagogical standards; and “focused on teachers’ abilities to raise student learning” (as cited in Bourke, Ryan & Lloyd, 2016, p. 4). According to Bourke, Ryan, and Lloyd (2016), while in the first half of the twentieth century, dominant conceptions of teacher quality were concerned with the moral character or personality of teachers (p. 3), it was not until the 1960s that student achievement became a key consideration (p. 3). More recently, they suggest that “the standards-driven agenda has become the contemporary view of quality in the accreditation of teacher education courses and measurement of teacher quality” (p. 4).

While psychology has been highly influential in this respect in Australia throughout most of the twentieth century, it is not exclusive to one normative view of teaching, as it has been explored in alignment with various ideological positions (Campbell & Sherington, 2002, p. 48). Psychological theories of teaching and learning from Europe, in particular the work of Pestalozzi, Froebel, and Herbert, grew in prominence in the early stages of Australian teacher education, although it took some time for these to be embraced by practicing teachers and in teacher education (Gardiner, 2004, p. 32). However, towards the end of the nineteenth century, mounting pressure for reform to enhance the intellectual rigour of teacher education led to the delivery of teacher education in teachers' colleges and universities (Gardiner, 2004, pp. 32-33). This university component caused teacher
education to include engagement with “the history and philosophy of education, child psychology and principles of teaching” (p. 36), and contributed to the popularisation of developments in pedagogy from abroad in Australia. Teachers’ colleges remained in Australia until around the 1960s-70s, at which point training was moved to colleges of advanced education and universities, strengthening the notion of the ‘scholar-teacher’ (Campbell & Sherington, 2002, p. 48).

A ‘return to basics’ has re-emerged as a significant discourse in Australian debates on teacher quality in policy and media, particularly since the Coalition was elected into federal office in 2013, and Christopher Pyne was elected as Minister for Education. While now holding a different portfolio, Pyne was a harsh critic of what ‘child-centred’, activity based learning, advocating for renewed emphasis on the ‘basics’ of literacy, and in particular, phonics (Hurst, 2013; Maiden, 2013). In the *Review of the Australian Curriculum* (Donnelly & Wiltshire, 2014) requested by Pyne, it was recommended that greater emphasis be placed on phonics in early years (p. 169).

In exploring how debates about literacy have emerged at different points, albeit articulated in alternative rhetoric, Green, Hodgens, and Luke (1997) identify relationships between previous Australian debates on literacy and broader social issues, positing that such debates “have been used to promote different visions of the ideal literate student and citizen” (p. 10). Cormack (2011) analyses this argument as it emerges in another recent policy (DEST, 2005), tracing its association with British and Scottish trends in attempts to ‘educate the poor’ during the nineteenth century (pp. 140-141).

Notions of social justice have also been highly influential in Australian debates on teacher quality. This is evident in Cormack’s (2011) critique of the aforementioned Report, wherein he argues that the “universal(ist) language of science” (p. 144) incorporated risks obfuscating the social and political factors that contribute to discrepancies in literacy attainment for some Australian populations and not others. Other approaches to pedagogy explicitly seek to address such issues, as exemplified in the work on ‘productive pedagogies’ in QLD (Lingard, Mills, & Hayes, 2000), and the subsequent work on ‘Quality Teaching’ in NSW, which draws heavily on the former. Productive Pedagogies was a component of a broader project, which understood pedagogy, curriculum, and assessment as intricately bound (Lingard & McGregor, 2011), and was underpinned by responsiveness to difference and context, as well as a normative progressive social agenda (Lingard, Mills, & Hayes, 2000, p. 102).

This work, as well as that on Quality Teaching, derives significant influence from that of Newmann and Associates (1996), based at the University of Wisconsin-Madison, U.S.A., on ‘authentic’ pedagogy and assessment. In Newmann and Associates’ model of pedagogy, the intellectual rigour of classroom activities, and the implications for learning outside of the classroom, were emphasised. This work was also underpinned by concerns for the equitability of outcomes, and attention to how the frameworks established might benefit students from disadvantaged
backgrounds (p. 13). However, Productive Pedagogies was more explicitly associated with critical pedagogies, popular in the U.S., as well as Bourdiesian theories on social reproduction, seeking to work within the tensions between these traditions (Lingard, 2007, p. 252).

Many scholars and also modern Indian educational philosophers consider the colonial period as the beginning of the mechanization of the teaching-learning process. This was a time which took the focus away from the leaning needs and aptitudes of individual child. Scholars have argued about distinct Indian tradition of child-centered pedagogy, which can be tracked to pre and post-independence era in the educational writings and work of intellectual thinkers, such as Vivekananda, Aurobindo, Gandhi and Tagore, among many others (Aggarwal, 1999; Guha, 2013; Kumar, 1993 & 2005; Pridmore, 2009; Smail, 2014).

However, in contemporary times, child-centered pedagogy within the colonially established modern system (which includes teacher education) is mostly understood among the teaching community as a Western import in recent times. Moreover, within the prevailing contemporary context where the teachers lack autonomy and are highly disempowered within the system, it becomes difficult for even the most willing teachers to implement child-centered pedagogic model in the classroom, as it has been argued with empirical evidence from research (Smail, 2014; Mukhopadhyay & Sriprakash, 2011).

**Recent reforms**

3.4 While both Productive Pedagogies and Quality Teaching impacted the policies of respective State Departments of Education, the Quality Teaching Framework remains a fixture of NSW policy (NSW DET, 2003), designed to help guide teaching practice and evaluation (Amosa, Ladwig, Griffiths, & Gore, 2007; Gore et al., 2015). Recent materials released by the NSW Department of Education maintain a focus on ‘teacher quality’, but place greater rhetorical emphasis on ‘evidence based’ approaches to pedagogy, and the ‘impact’ of teachers on student learning (CESE, 2013; 2014).

Terms like ‘evidence’, ‘impact’, and ‘accountability’ have become dominant in debate and policy at a Federal level, seen in recent reforms for ITE. These focus heavily on the selection and accreditation of teachers, and include measures such as the tightening of entry standards into ITE (AITSL, 2015a), and the implementation of exit exams to ensure teachers are within the ‘top 30%’ of the population in achievement in literacy and numeracy (DET, 2016). Greater ‘accountability’ measures have also been placed upon ITE providers, such as the collection and public dissemination of data to provide evidence of the ‘impact’ of their programs (AITSL, 2015b, p. 2). These reforms draw and build upon the *National Professional Standards for Teachers* (AITSL, 2014) developed a few years prior, which are expressed as a set of competencies, hierarchised in terms of different points of career development.
In recent years, the Unified District Information System of Education - U-DISE developed by the National University for Educational Planning and Administration (NUEPA) has generated huge amounts of quantitative data on the quality of teaching and learning in India (DISE, 2014). While setting up the District Primary Education Program (DPEP) in 1994 with funding from the Central government in India, the World Bank and the UNICEF (Jalan and Glinskaya, n.d.) it was realized that it was important to generate a scientific data system to monitor quality of teaching and learning and formal school system within India. U-DISE was thereafter developed. The first version (dbase) of the software, named as 'District Information System for Education' (DISE) was released by National Institute for Educational Planning and Administration (NIEPA) during the middle of 1995. Since then, they have been gathering a range of data on Indian schools, which also includes school infrastructure, apart from school-drop-out, examination and graduation data to assess the quality of teaching and learning. U-DISE publishes school report cards each year based on DISE data (SRC, n.d.).

In order to raise mass awareness about the appalling state of public education in India, a non-governmental NGO, Pratham has complemented this governmental effort in recent years in collaboration with District Institutions of Education and Training (DIET), to generate a grassroots citizen-led system of assessment for student learning in schools. Since 2005, they have been publishing the ASER (Annual Status of Education Reports) based on their grassroots citizen-lead assessment.

The ASER data collection first starts with finding volunteers to collect the survey data. In each of India’s rural districts, volunteers are recruited from partner organizations like local colleges and universities, NGOs, and District Institutions of Education and Training (DIET), which is an institution for preparing teacher candidates to teach in India’s government-run public schools. ASER first trains a group of Master Trainers (MTs) to conduct the survey. The MTs become the team leaders for each rural district and are tasked with recruiting additional volunteers to carry out the survey. To help with the survey data collection, each MT recruits a volunteer team of between 50 to 60 recruits.

- Byker, 2016

However, there is no system of rewards yet to recognize good quality of teaching and learning- pedagogic work at the grassroots or State level. Though there are some National awards for exceptional contribution in the field of education within India, like it is for other professional fields. Parents vie with each other to see the faces of the child flashed in local TV stations and newspapers for scoring top marks in major school leaving and university entrance exams. But, there is no reward or recognition for teachers or schools to promote good quality of teaching and learning.

After setting up the Sarva Shiksha Abhiyan (SSA) office following the global declaration of Education for All in the 1990s, in recent years the Indian government has also passed the Right to Education Act (MHRD, 2009). The RTE act has been in
the implementation phase since 2010 and it takes a human rights-based approach to improve teaching and learning for all children, irrespective of differences based on gender, caste, class, religion or disability/different-ability. There are various NGOs and youth-led Civil Society organizations within the country, such as Indusaction, which is seeking to promote pedagogic reforms to improve the quality of teaching and learning in some regions-mostly operating in and around big cities and some nearby rural areas. But, there has been sheer lack of a concerted effort across the country to promote pedagogic reforms yet. Academic Professional associations are not as active within India, as the teacher’s unions.

The Comparative Education Society of India has been dormant since its inception in the 1960s and it has been revived only recently 5 years ago, hosting annual National conferences. There is no other established professional association of researchers and practitioners- i.e. teachers, school administrators and civil society organizations at the National or Regional level to generate evidence-based academic debates to promote pedagogic reforms to improve the quality of teaching and learning. According to existing research, there is also serious gap between the government rhetoric in terms of the policy documents and actual practice to promote pedagogic reforms (Srivastava and Nooranha, 2014a; 2014b).

Local interpretation of the ideas of quality improvement

3.5 The work on ‘visible learning’ by John Hattie, now Chair of AITSL, has been highly influential in this emphasis on ‘impact’ in Australian policy. Hattie (2009) conducted an extensive meta-analysis on a range of classroom ‘interventions’ designed to improve student learning. Finding that, while the vast majority of teacher interventions do have a ‘positive effect’ (pp. 15-16), Hattie focuses on the degree to which something is effective, since seeking to popularise the phrase “know thy impact” (Hattie, 2012). Hattie’s (2003) contention that, of all the factors that could influence student learning, teachers are the ”greatest source of variance that can make the difference” (p. 3), has become prominent across media, policy, and professional discourse (e.g. CES, 2013; AEU, 2014).

These policy trends reflect a conception of that quality aligned with neoliberal thought, in which “the measuring, or auditing, of educational practices and relationships” is central (Thompson & Price, 2011, p. 3). While Bourke, Ryan and Lloyd (2016) suggest that views such as this, and in particular the emphasis on professional standards, originated in the U.S., they have broadened to several other countries (p. 4). Many critiques have been directed towards this view of quality in teaching, seen in arguments that its emphasis on ‘auditing’ teachers has deleterious effects on professionalism (e.g. Connell, 2009; Lingard, 2010), and its focus on measurable academic outcomes may compromise approaches to teaching more aligned with social justice agendas (e.g. Cormack, 2011; Thompson & Price, 2011).

Since 1978, with collaboration of UNICEF specification of Minimum Levels of Learning (MLLs) has been made by NCERT along with a scheme learner evaluation for language, math and environmental studies. It has been specifically
recommended to lighten the burden of memorizing textbook material. In order to promote education for all children and not just select few, it has been also recommended to lighten the load of curriculum and leaving room for the teacher to relate textbook information and objective reality into a meaningful process of understanding and application. This in a way aligns with global prescriptions of organizations, such as UNICEF to promote education for all. However, this approach also aligns with India’s ancient tradition of teaching and learning in Gurukuls without availability of mass textbooks, when students would be “rhyming, listening and analyzing of hymns” and applying their knowledge gained through the pedagogic process in real life.

**Barriers to reform**

3.6 As demonstrated in the contention surrounding current policy approaches, differences in thinking about what should be valued in teaching poses a significant difficulty in reform, and Gore (2001) suggests that such tensions are pronounced in educational scholarship. For Hattie (2015), the implementation of what he argues is efficacious policy is obstructed by misinformation, and political agendas that take precedence over ‘evidence’ (p. 1). Uncertainty around federal funding for schooling is also a source of difficulty in reform related to the workplace conditions of teachers and the provision of specialist staff in areas of need (I Give a Gonski, n.d.).

There are various cultural, administrative and educational barriers to reform the mainstream performative exam-focused teaching and learning process within India context, which has become institutionalized since colonial times. As research shows there is serious lack of awareness among the masses and even the teaching body about the history of teaching and learning within India and how the focus shifted during the colonial era from learning to test-taking and rote-memorising to perform well in exams.

Administratively, as a large country with his linguistic and cultural diversity poses its own challenges within the Indian context. In order to reform the mainstream system to improve the quality of teaching and learning within contemporary India, teacher education needs to be reformed first, so that teachers & educational researchers do not reject concepts such as inclusive education and child-centric pedagogy to facilitate the learning of all children as foreign to the Indian context. It is important for teachers to move beyond the binary of teacher-centered and child-centered pedagogy and to learn about India’s own tradition of teacher directed child-centered pedagogy.
References


Conference, Melbourne, Australia.


Chapter 4

Assessment and reporting

Student assessment and systems of examination

4.1. Collins (2011) provides an overview of major shifts in thinking on assessment since the formation of Australian schooling. Initially, assessment was at the foundation of primary schooling, and was understood as providing a means by which students were to be ‘sorted’ into secondary schooling (p. 185). While in this primary school assessment, emphasis was placed upon speed and accuracy in recitation, externally assessed ‘high stakes’ testing at the end of secondary schooling only came to involve written examinations in the late nineteenth century (p. 185).

Over time, questions were raised about the ways in which school assessment ranked students, and guaranteed the failure of a particular proportion, and during the 1970s in particular, practices and policy that challenged this became more prominent. As this period saw greater responsibility for curriculum development afforded to schools rather than the state, schools would experiment more freely with assessment, and most states decreed the abolition of external examination before year 12 (Collins, 2011, p. 187). Notions of formative and diagnostic assessment, in which emphasis is placed on ascertaining what students have learnt, and what would be a helpful next step (Harlen, 2012, p. 89), grew in popularity (Collins, 2011, p. 188).

In the 1980s, these more progressive trends were displaced alongside increased Commonwealth influence on Australian assessment. Collins (2011) describes this input as more aligned with an “economic manager’s perspective, not interested in education for the benefit of the children per se but in evidence of value for money in the school sector” (p. 189). Particularly during John Dawkins term as Federal Minister for Education, understandings of assessment became more associated with ideas of educational output, management, and accountability on part of respective states and territories (Collins, 2011, p. 189). However, formative assessment retains significant interest, particularly in relation to arguments that ‘high stakes’ summative assessment may exacerbate educational disadvantage for particular groups (e.g. Klenowski, 2014, p. 448).

Historically, prior to the British rule in India and massification of the education system there is no record of any mass examination system to assess student learning. Teachers/ “Gurus” in small village schools run by Hindu and Muslim teachers would test the learning of individual students by making them perform some task and see if the students can apply the knowledge gained in performing that task. Some women also got “education in exclusive female learning spaces for women that had evolved in culturally sympathetic ways over many centuries” (Allender 2012), reading epic poems and learning accounts for daily living. Kumar
states that, the mass education system with mass examination evolved in the mid-nineteenth century geared towards reproducing bureaucratic administrative staff from among the local elites during British colonial period.

The first Indian Education Commission in 1882 recommended to expand these indigenous schools “as one established or conducted by natives of India on native methods” even in backward regions among illiterate population (Hunter, 1882). They also recommended a system of providing grants-in-aid on the basis of results to secular indigenous schools. However, the commission also suggested that the upper and lower primary examinations should not be made compulsory. In secondary schools during colonial times, Junior and Senior Cambridge exams were administered for boys and the same exams were adapted for girls to assess student learning (Allender, 2006; 2012).

The Central Board of Secondary Education (CBSE), established by a special resolution of the Government of India in 1929, prescribed examination conditions and the conduct of public examinations at the end of Standard X and XII. Central Board of Secondary Education (CBSE) is one of the three national boards of secondary education in India. CBSE has affiliated around 8,300 schools including government and independent schools. It also affiliates schools in some 20 African and Asian countries. About 200 new schools are affiliated each year. Study teams conduct regular inspections of the affiliated institutions. CBSE has a central office and 6 regional offices. Permanent affiliation is obtained after a number of years. Affiliation is granted according to strict criteria, and a list of affiliated schools can be found on CBSE’s website (CBSE, n.d.a.).

In 1952, an All India Certificate Examinations Conference was held under the Chairmanship of Maulana Abul Kalam Azad, independent India’s first Minister for Education. The main purpose of the Conference was to consider the replacement of the overseas Cambridge School Certificate Examination by an All India Examination. This set the agenda for the establishment of the Council for the Indian School Certificate Examination (CISCE) which administers the all-India class X- ICSE and class XII- ISC exams.

In October 1956 at the meeting of the Inter-State Board for Anglo-Indian Education, a proposal was adopted for the setting up of an Indian Council to administer the University of Cambridge, Local Examinations Syndicate's Examination in India and, to advise the Syndicate on the best way to adapt its examination to the needs of the country. The inaugural meeting of the Council was held on 3rd November, 1958. In December 1967, the Council was registered as a Society under the Societies Registration Act, 1860. In 1973, the Council was listed in the Delhi School Education Act 1973, as a body conducting “public” examinations (See: CISCE, 2013).

National Institute of Open Schooling (previously known as the National Open School) was established in November 1989 as an autonomous registered society. The institute provides basic programs such as secondary education courses and senior secondary education courses on an open education basis. NIOS conducts
examinations twice a year and candidates can appear in one, two or more subjects. Credits are accumulated until the certification criteria are fulfilled. NIOS (2012) has at its disposal a network of accredited study centres all over India providing support to learners.

In Indian schools the students generally take quarterly, half-yearly and annual exams at each grade-level in schools, which is generally prepared and administered by teachers in schools. At the level of class 10 all students take a secondary school-leaving standardized exam designed and administered by the school boards (either Matriculation/Madhyamik exam by State-level school board or the 3 National school board exams- CBSE, ICSE, NIOS). Two years after this test and after completing class 12, the students take the Higher Secondary, Senior School, or Intermediate Examination to get qualified to enroll in college for higher education.

**National systems of reporting**

4.2 In Australia, there are national standardised testing regime that occur at different points of schooling. Consistent with the stated educational goals for young Australians in the *Adelaide Declaration* (MCEETYA, 1999) and the subsequent *Melbourne Declaration* (MCEETYA, 2008), the National Assessment Program (NAP) was introduced in 2003 with a sample assessment in science literacy. ACARA (2013) is a national statutory authority, established in 2008, that assumes curriculum, assessment, and reporting responsibilities, including the administration of the NAP.

The NAPLAN examinations, which focus on literacy and numeracy skills more generally, are one highly significant component of the NAP, and were first administered in 2008. These tests take place in Years 3, 5, 7, and 9, and are intended to identify whether particular educational outcomes are being met, inform attempts to improve performance, and, in replacing approaches specific to states and territories, enhance comparability in results across jurisdictions (NAP, 2013a, n.p.). The NAP is also inclusive of tests in science literacy, civics and citizenship, and information and communication technology, though these occur on a rolling basis and only with a small sample of schools, selected at random to provide a “national snapshot” (NAP, 2013b, n.p.).

Assessment in the final years of Australian schooling has a highly significant bearing on the opportunities available to students in terms of their post-school education or work. While the majority of Australian students continue through to the final year of schooling (AIHW, 2015, p. 124), some leave prior to this to pursue pathways other than tertiary education. Students who do attrite receive an alternative credential that is not applicable to university admissions processes, such as RoSA in NSW, which is a cumulative record of school achievement (NSW BOSTES, 2014), though other states utilise different qualifications.

While there are alternative means by which students can attain entry into university courses (Subban, 2014), the ‘ATAR’, which is based upon one's results in the senior
years of schooling, is the primary measure for high school leavers. The ATAR is a
rank, expressed as a numeric value, which indicates a student’s performance in
relation to others in their national cohort (VTAC, n.d.), and is used by tertiary
education providers set entry requirements for undergraduate programs. The use of
‘bonus’ point schemes by universities is a long-standing practice, and these are often
awarded to students based on academic merit (e.g. UNSW, 2015) or educational
disadvantage, such as that caused by living in a rural area (e.g. University of
Newcastle, 2016). A ‘notional ATAR’ is provided to students who have completed
their senior schooling in alternative Victorian educational systems, such as that of
the International Baccalaureate (IB) (VTAC, n.d.).

Students in Class 10 and Class 12 take external examinations administered by a
State board or one of the three all-India boards- the Central Board of Secondary
Education (CBSE), Indian Certificate of Secondary Education (ICSE) and National
Institute of Open Schools (NIOS) to receive their exit credential. Of all the three
National education boards, ICSE is a private, non-governmental board of school
education in India. National Open School system provides students with a more
flexible vocation-oriented curriculum. However, since the medium of instruction
and study materials for all three all-Indian boards are in English, these are limited to
those who study in English medium. In recent years, there has been also a
proliferation of International Baccalaureate (IB) schools.

All State-board schools are run in local vernacular language medium. The credential
representing the completion of secondary education is usually called Secondary
School Certificate or Matriculation/Madhyamik Examination Certificate. The
credential representing the completion of higher secondary education is usually
called Higher Secondary Certificate, Senior School Certificate, or Intermediate
Examination Certificate. The completion of higher secondary education gives access
to university study.

These examinations results are reported Indian Government’s Ministry of Human
Resource and Development. NCERT along with National Institute of Educational
Planning and Administration (NIEPA), which is now a deemed-University, NUEPA,
prepares National reports on progress based on examinations reports from the
National and State-level examination boards. These reports are available online
(MHRD, n.d.; SRC, n.d.)

**Purpose of assessment and reporting**

4.3 The implementation of NAPLAN has been controversial, and
some of this relates to the ways in which the data generated by the tests is publicly
reported. This information is published on the ‘My School’ website, with the intent
of enabling parents, the community, and educators to view the results of
individual schools, and compare these with that of schools that are like in terms of
socio-economic characteristics (My School, 2016). Unions have been critical of this
website, challenging the potentially negative effects it could have on classroom
practice, as well as the reputations of schools (Lingard, 2010, p. 130). In particular,
unions have claimed that the proposed publishing league tables could portray schools in reductive and damaging ways (NSWTF, 2010).

Similar concerns about the misuse of this data have emerged in teacher education scholarship, such as the potential to invoke public mistrust towards, and place additional pressure upon, teachers and schools (e.g. Thompson, 2013; Mockler, 2013). According to Thompson (2013), while there is insufficient evidence that NAPLAN has achieved the objective of improved performance in literacy and numeracy, a growing body of research associates the tests with the proliferation of more teacher-directed pedagogies, and decreases in student motivation and engagement (p. 64). In a large-scale survey of teachers in SA and WA in relation to NAPLAN, Thompson and Harbaugh (2012) found that ‘teaching to the test’ was a prominent concern, with many teachers feeling as though this had contributed to a narrowing of curriculum (p. 2).

Hogan (2016) raises other concerns about NAPLAN, calling attention to the favour provided to ‘edu-businesses’, being private corporations, in the development and production of the assessment materials (p. 101). Hogan associates this with an increasing incursion of private business in public education on a broader scale, and that the agendas of such actors may be “tied to profit making, and moreover are largely shaped by ‘generalists’ with little classroom experience or formal research background in education” (p. 107). This brings forth a risk that the voices of those conventionally deemed ‘experts’ on educational matters are displaced in favour of corporate stakeholders.

Universities are a central stakeholder in senior school assessment, and have attracted controversy following recent media reports of their widespread acceptance of students whose marks fell far below advertised entry requirements (e.g. Bagshaw & Ting, 2016). As such, the Federal Minister for Education has called for transparency in these practices to increase the accountability of universities (Hare, 2016). In education scholarship, Dinham (2013) criticises such practices in relation to teacher education, associating a decline in academic standards with the uncapping of government funded university places in 2012, which he suggests universities have exploited (p. 99). O’Leary and Hattie (2015) raise a broader challenge to the ATAR itself, arguing that it is a poor measure of ‘school impact’, as it does not provide a longitudinal indication of improvement within a given school (n.p.).

With over one billion population and 287 million adult illiteracy (UNESCO, 2014), the main purpose of assessment and reporting within the contemporary Indian context has been focused on gathering quantitative statistics about the spread of literacy, educational attainment. Examination scores also determine highly competitive admission in colleges and Universities for higher education. Exam scores for Higher Secondary examination also determines eligibility to take further tests for University and college entrance exams and entrance exams for other professional studies, such as medicine, law, engineering etc.
There has been extensive debates about the inadequacy such a mode of assessment is skewed towards assessing which student can rote-memorize more content from the prescribed text. It is argued that the tests do not assess whether the students can apply knowledge gained in classroom in practical real life situations. It is advocated that a mode of continuous comprehensive evaluation of student learning should be established (Sarkar, 2012). In fact, these debates are centuries old within the Indian context as writings from 20th Century Indian educational philosophers reveal that they were highly critical of their contemporary system of schooling and assessment of learning which promoted rote-memorizing, rather than independent thinking and creativity (Tagore, 1919; Krishnamurti, 1953).

The heavy focus on rote-memorized content knowledge from textbooks in tests has also lead to massive corruption within the system in recent times leading to mass-cheating almost becoming a cultural phenomenon, particularly in tests administered by the local State board of exams (Ghosh, 2016; PTI, 2016).

The Right to Education Act 2010 has mandated for instituting continuous comprehensive evaluation system to assess student learning and not just testing their ability to memorize for one big test. However, in practice this has not worked out yet. There is need for clear policy guidelines for schools and preparation of teacher education to actually implement this idea for ensuring better learning for all. The Central Board of Secondary Education (CBSE) and some State Boards of Education are now seeking to implement continuous comprehensive evaluation by informing teacher about the method through their websites and also by organizing teacher’s training workshops (see: CBSE, n.d.b; CHSEM, 2013).

**Transferability of assessment records**

4.3 The transferability of assessment records across states or territories presents particular challenges in Australia due to, in significant part, historically different policy and practices in the management of schooling and provision of assessment in different jurisdictions. While overarching patterns in assessment thinking have been fairly consistent across Australia, states and territories came to ideas at different rates and levels of commitment.

For instance, while challenges to external examinations in the 1970s were not exclusive to Queensland, this state abolished external examinations in favour of only school-based assessment (Maxwell & Cumming, 2011, p. 204). Queensland remains an exception to common practices in Australian assessment in the final years of schooling, as formative assessment continues to be used to inform summative assessment results (Dargusch, 2010, p. 42). As such, while the introduction of the ATAR responded to inconsistencies across states and territories to ensure that Australian students were assessed in relation to a “common scale” (UAC, 2015, p. ii), Queensland authorities must provide an equivalent ATAR for national comparative purposes (TISC, 2016).
Though ideally assessment records of one State board of education should be transferable within the country, but in reality it does not work in that way within India. One of the big problems is that the language of instruction in all government schools under the State boards of education is in local vernacular language of the region. Moreover, postcolonial politics of de-colonization and internal language politics against Hindi as the National language, limited the teaching of English as second language and Hindi as pan-Indian third language in many State board schools. Hence, it also made transferability of assessment records and credentials difficult.

**Appeal of international testing regimes**

4.4 International testing regimes in which Australia is involved include PISA, TIMSS, and PIRLS (NAP, 2013b). The PISA exam focuses on mathematics, science, and reading. TIMSS focuses on mathematics and science, and PIRLS on reading literacy (Cambridge International Examinations, 2015). These exams are designed to provide enable comparison between the educational performance of students in participating countries, so as to inform government attempts to improve this performance (ACER, 2016a; ACER, 2016b; ACER, 2016c).

International comparative testing in Australia grew in the context of increasing concerns about the relationship between education and Australia's capacity to 'compete' economically in a globalising world (Savage & O'Connor, 2015, pp. 609-610). Fears of 'falling behind' international counterparts persist for policymakers (e.g. Pyne, 2013; Birmingham, 2016), and the results of these assessments are often invoked alongside criticism of schools, teachers, and teacher education (Dinham, 2013, p. 92). Dinham (2013) challenges the emphasis placed upon these comparisons on the basis that this often fails to account for the ways in which particular historical and cultural factors might lend to better performance (p. 95).

Indian students were ranked second last in the PISA test in 2012. India ranked second last among the 73 countries that participated in the Programme for International Student Assessment (PISA). Students were selected from two apparently better performing states of India in terms of educational attainments according to National Statistics - Tamilnadu and Himachal Pradesh. The report on the performance of students in PISA stated that: "In Himachal, 11% of students are estimated to have a proficiency in reading literacy that is at or above the baseline level needed to participate effectively and productively in life. It follows that 89% of students in Himachal are estimated to be below that baseline level." The UPA government in India released statement to withdraw from participating in PISA after that citing issues related to linguistic and cultural diversity. But, with the new NDA government, NCERT has released a statement again in 2015 stating that, "It is at a preliminary stage but we think India should join PISA. First time result was disheartening but that would only help us in future" (as cited in India Today in Education, 2015, n.p.).
Growth of international programs

4.5 The IB diploma is an alternative to Australian state qualifications that seeks to “develop the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly globalizing world” (International Baccalaureate, n.d.a, n.p.). It has rapidly grown in popularity in Australia over since 2000, is provided in both public and private schools, and while it is often associated with opportunities in and preparedness for pathways in tertiary education, it is not isolated to the senior years of schooling (Savage, 2014).

Taking into consideration the vast size of India and its population, the number of IB schools and modes of assessment for IB diploma is small. There have been IB schools in India since 1976. But, in recent years the numbers have grown. Currently, there are total 123 IB world schools- 61 schools offer IB in the primary years, 19 offers it in middle school and IB diploma is offered by 104 schools (International Baccalaureate, n.d.b.).
References


Chapter 5

Professional standards and teacher training

A historical discussion on teacher education

5.1. Gardiner (2004) provides an overview of the introduction of formal teacher training courses in Australia, which followed the establishment of grammar schools in the 1830s. Prior to this, teaching was performed by members of the public, some of whom were convicts. Training was delivered to both prospective and practicing teachers in Anglican schools, which involved a three-month training course, followed by a practicum experience, before they entered the teaching workforce. However, the continuation of these developments were temporarily obstructed by economic depression, and it was not until 1847 that two educational boards were established, one for denominational schools and one for non-denominational schools.

These authorities moved to establish Fort Street Model School in Sydney, NSW in 1850, which was the “the foundation for the ‘dominance of state-provided teacher preparation in Australia” (pp. 28-29), though, due to demand for teachers it was only undertaken by half the teachers in the colony of NSW. However, as concerns about the quality of teaching grew, NSW, SA, and VIC introduced teacher training that was based on a ‘teacher-pupil’ model, in which candidates studied in a number of areas and completed exams, but also an apprenticeship year of teaching in a school (Gardiner, 2004, pp. 29-30).

Towards the end of the nineteenth century, renewed pressure to enhance the intellectual rigour of teacher education led to the delivery of teacher education in teachers’ colleges and universities (Gardiner, 2004, pp. 32-33). Teachers’ colleges remained in Australia until around the 1960s-70s, at which point training was moved to colleges of advanced education and universities in line with the notion of the ‘scholar-teacher’ (Campbell & Sherington, 2002, p. 48). This has strengthened been in recent years, as most institutions now offer ITE as a postgraduate qualification (e.g. Western Sydney University, 2016; Australian Catholic University, 1998-2016), and in the case of the University of Melbourne, this has completely replaced undergraduate pathways (The University of Melbourne, 2016). Recent reforms at both a federal and state level have also contributed to this, as will be discussed below.

Indian sources discuss teacher education during pre-independence India in 4 historical phases- Upanishadic Period, Buddhist Period, Medieval Period and Modern Period (University of Mumbai, n.d.). Prior to the British colonial period, early initiatives in setting up normal schools and training colleges were taken by European missionaries. The first formal teacher’s training School in India was set up at Serampur in Bengal in the name of “Normal School” by Carey, Marshman and Ward in 1793. In Bombay, the Native Education Society trained a number of
teachers for the improvement of teaching in primary schools. In Bengal the Calcutta School Society did pioneering work for the training of teachers for indigenous schools. The Ladies Society of Calcutta started a training class for training women teachers in the Calcutta Central School for girls. A number of government training schools were also set up in the first half of the nineteenth century.

The Wood's Despatch of 1854 (popularly known as Magna Charta of English Education in India) formally made several recommendations to expand and improve teacher education in India following the model in England at that time. Lord Dalhousie, the then Governor-General of India also suggested implementation of Wood's Despatch which brought into existence a number of normal schools. Lord Stanley's Despatch (Stanley, 1859) also emphasized the importance of teacher education. The Stanley's Despatch also insisted on training and recruiting local teachers for vernacular medium schools. It also suggested providing grants-in-aid to local schools only if they recruited teachers, who obtained certificate of formal teacher's training. By 1882 there 106 Normal Schools, including 15 institutions meant exclusively for women were established. In 1886, the first training college to prepare secondary school teachers was set up at Saidapet in Madras followed by the opening of a Secondary Department in the Nagpur Training School in 1889. Towards the end of nineteenth century, there were only six teacher's training colleges in India.

There were several successive government commissions on education and reports beginning with the Government of India Resolution on Education Policy in 1904, 1913, Calcutta University Commission or the Sadler Commission (1917-19), the Hartog Committee 1929, the Abbott-Wood Report 1937 and the Sargent Report 1944. All these successive commissions and reports led to increase in number of teachers training colleges in the early twentieth century. In 1947, the total number of secondary teacher's training colleges rose to 41.

In the postcolonial era, the first University Education Commission (1948-49) critically scanned teacher education across the country and highlighted the need to indigenize the curriculum suitable for the needs of the local schools. In 1950, the First Conference of Training Colleges in India was held at Baroda to discuss programmes and functions of training colleges. It led to the establishment of Indian Association of Teacher Educators (IATE), formerly known as All India Association of Training Colleges, the only national organization of teachers of training institutions. They have been organizing annual conferences beginning with their first meet at Baroda in 1950. IATE constituted a study group popularly known as Baroda Study Group to revitalize the B. Ed. Programme (IATE, 2009).

The Government of India in collaboration with Ford Foundation appointed an International team of eight experts in 1954 that studied in greater detail the major recommendations of Secondary Education Commission (1952-53) and recommended that the training institutions should organize and conduct demonstration or laboratory schools where experiments are made in curriculum construction and progressive methods of teaching are used. The Education
Commission (Government of India, 1964-66) also known as Kothari Commission showed keen interest in teacher education. It observed that a sound programme of professional education for teachers was essential for the qualitative improvement in education at all levels of teacher education to meet the requirements of the national system of education. The National Policy of Education (NPE) in 1986 recommended that teacher education is a continuous process and its pre-service and in-service components are inseparable. The National Policy of Education (NPE), in 1986 and its Programme of Action made a strong case for improving the quality of teacher education because it was the prerequisite to improve the quality of school education. Some training schools were upgraded to District Institutes of Education and Training (DIETS) and some training colleges were upgraded to Colleges of Teacher Education (CTEs) and Institutes of Advanced Studies in Education (IASES).

The Yashpal Committee (1993) noted that inadequate programme of teacher preparation leads to unsatisfactory quality of learning in school. Therefore, the B.Ed. programme should offer the possibility of specialization in secondary or elementary or nursery education. The duration of the programme should either be one year after graduation or four years after higher secondary. The contents of the programme should be restructured to ensure its relevance to the changing need of school education. The emphasis in these programmes should be on enabling the trainees to acquire the ability for self-learning and independent thinking. By the year 1998-99 there were 45 District Institutes of Education and Training (DIETS), 76 Colleges of Teacher Education (CTEs) and 34 Institutes of Advanced Studies in Education (IASES). The statutory NCTE further came out with a Curriculum Framework (1998) to provide guidelines in respect of the content and methodology of teacher education. As a result of this, many universities and state governments revised the courses of teacher education. According to 2013 figures (MHRD, 2013) the country has a little over 1,000 government teacher training institutes and close to 15,000 private teacher training institutes. Together each year these institutes enroll close to 1,3,00,000 aspiring teachers. This is a very large system of teacher education.

India has made considerable progress from the turn of the century in improving access to education and enrolment in schools with the Right of Children to Free and Compulsory Education Act (RTE, 2009). As a result, teacher education also has experienced some considerable alterations over the last decade. To begin with, there is a change from the long-established transmission-oriented model of teacher education to a more constructivist model. Additionally, there is a greater acknowledgment of teacher cognition and practice within authentic contexts and greater focus on links between theory and practice (Gunasekhar, Padwad & Pawelec, 2011). The National Curriculum Framework for Teacher Education, NCFTE (NCERT, 2010) in India puts forward: “Any system, in order to be forward looking, must be bold in encouraging experimentation and innovation and also be involved with constant review of the outcomes of such efforts. The field of teacher education should be no exception” (p. 83).
The Indian Government has also initiated several schemes to encourage the integration of ICT in classroom teaching. The ‘ICT@Schools’ scheme is one such major step promoting enquiry based collaborative teaching with ICT (Ministry of Human Resource Development, MHRD, 2010). Under this scheme school teachers in India, who use ICT innovatively in teaching their subject to enhance student learning, are acknowledged with a 'National Award for use of ICT in education.' The National Curriculum Framework for Teacher Education, a milestone document in India's teacher training by National Council of Educational Research and Training (NCERT, 2005), promotes teacher training models that are self-guided, paced toward oneself, peer-learning-based, guided, followed-up and persistent. The NCERT (2010) advocates teacher training also to be open and adaptable, in light of dialogical investigation and reflective practice, as opposed to a rigid and unchanging information base (NCERT, 2010, p. 19).

The Indian education system is broad and intricate. According to the statistics from the 8th All India Education Survey (AIES) released by the National Council of Education, Research and Training (NCERT) in 2009, there are over 1.3 million schools in India with a gross national enrolment of 227 million students taught by about 7.2 million teachers. This vast system is further more complex with by education being a ‘concurrent’ area of governance that is controlled by both central and state governments. For the primary and secondary education sectors, three national and over 20 state boards of education function autonomously, with thousands of schools affiliated to each of those. In teacher education, there are similarly central, state, deemed and private universities, along with thousands of affiliated, autonomous, state-run, state-funded, unaided and private colleges. These bodies work autonomously and generally in isolation from each other (Padwad & Dixit, 2014).

There are national norms and standards of teacher qualifications, recruitment measures, service expectations and outcomes assessment, relevant to the educational institutions within the purview of the national regulatory bodies. Every state in India has its own norms and standards, largely following the national ones, with locally applicable adjustments. In general, to be a primary or secondary teacher in India one needs to obtain a bachelor’s degree and a two-year pre-service teacher education degree. The norms are more precisely adhered to in government-aided schools, while unaided schools in many cases are lenient about them. It is thus never that unlikely to find inadequately qualified or untrained teachers in educational institutions of India. (Padwad & Dixit, 2014). Moreover, many teachers in India are low on enthusiasm and commitment towards their occupation due to teaching overload, low salary, lack of rewards etc. Studies such as Ramachandran, Pal, Jain, Shekar, and Sharma (2005) and Bennel and Akyeampong (2007) indicate very low teacher motivation in India. Quality in classroom teaching is a colossal challenge facing education policy makers across India (Bolitho & Padwad, 2012).

**Teachers training and, employment**
Following the attainment of teaching credentials, processes of accreditation vary across states and territories, but are subject to the same overarching national standards. In some states, prospective teachers must complete an interview with a Department representative in order to be employed as a teacher (e.g. teach.NSW, n.d.; QLD DET, 2016). Once teachers have attained accreditation with the regulatory body of their state or territory, they are able to work apply for teaching work in public and private sector, though positions in the Catholic and independent schools are advertised and managed through different professional bodies (e.g. Sydney Catholic Schools, 2016). The largest Australian employer of teachers is the NSW State Government, with 65% employed in government schools, 20% in the Catholic school sector, and 15% in independent schools (CESE, 2014, p. 28). It is a national requirement that Australian teachers are provisionally registered at the beginning of their career, before advancing to full registration upon the satisfaction of requirements set by the regulatory authorities in each state and territory (AITSL, 2014a).

During the initial accreditation of teachers, different states have different mechanisms for rewarding high performance prior to in-service practice. For instance, in NSW, high performing graduates may be ‘targeted’, which renders them eligible for priority permanent placements allocated by the Department (NSW DEC, 2012). Some argue that the development of mechanisms to reward high performing teachers is a key component of the improvement of 'teacher quality' more generally, and this contention is pronounced in materials published by non-government organisations such as think tanks and lobby groups (e.g. Dinham, Ingvarson, & Kleinhenz, 2008; Jensen, 2010; Masters, 2007). This often involves schemes for remuneration, exemplified in the Business Council of Australia’s proposal that “best classroom teachers should have the opportunity to earn up to double the average teaching salary” (Dinham, Ingvarson, & Kleinhenz, 2008, p. 3).

Each Australian state and territory has agreed to undertaking efforts to reward high quality performance, and the development of different staffing classifications and associated pay rates for high performing teachers and principals is a key aspect of this (COAG, 2009, n.p.). The national professional standards assist in this task by providing descriptors of performance in four rungs of teacher classification, being graduate, proficient, highly accomplished, and lead (AITSL, 2014b). However, some argue that procedures for rewarding are insufficient, and that this contributes to a failure to attract high ability individuals to the teaching profession (e.g. Ingvarson, Reid, Buckley, Kleinhenz, & Masters, 2014; Jensen, 2010).

National Curriculum Framework for Teacher Education (NCFTE) 2010 highlighted that the education and training of a prospective teacher will be effective to the extent that it has been delivered by teacher educators who are competent and professionally equipped for the job.

To improve the quality of teacher education program, the National Council for Teacher Education (NCTE, 2015) took up a number of initiatives during the last decade. It joined hands with the National Assessment and Accreditation Council
NAAC to foster quality assurance and sustenance. The Right of Children to Free and Compulsory Education (RTE) Act, 2009, which became operational from 1st April, 2010, has important implications for teacher education in the country. The National Curriculum Framework of Teacher Education in 2009 to address the Right to Education Act 2009 priorities stated that a new approach would be taken for teacher education as follows:

- Reflective practice to be the central aim of teacher education;
- Student-teachers should be provided opportunities for self-learning, reflection, assimilation and articulation of new ideas;
- Developing capacities for self-directed learning and ability to think, be critical and to work in groups;
- Providing opportunities to student-teachers to observe and engage with children, communicate with and relate to children. The Framework has highlighted the focus, specific objectives, broad areas of study in terms of theoretical and practical learnings, and curricular transaction and assessment strategies for the various initial teacher education programmes. The draft also outlines the basic issues that should guide formulation of all programmes of these courses. The Framework has made several recommendations on the approach and methodology of in-service teacher training programmes and has also outlined a strategy for implementation of the Framework. As a natural corollary to the NCFTE, the NCTE has also developed ‘model’ syllabi for various teacher education courses.

(Source: MHRD, 2016)

Since 2011, Teacher Eligibility Tests (TET) for Teachers and Principals are being conducted at both level at state and at central level (CTET, 2015). For teacher education University Grants Commission (UGC) conducts National Eligibility Test (NET) at national level and State Level Eligibility Test (SLET/SET) at state level (CBSE, n.d.). A report (Pillai, 2013) on quality enhancement in teacher education released by the UGC takes an idealistic approach by quoting from UNESCO’s (1996) report- “Learning the Treasure Within” to affirm “the importance of the role of the teacher as an agent of change, promoting understanding and tolerance, has never been more critical in the Twenty- first Century. The need for change from narrow nationalism to universalism, from ethnic and cultural prejudice to tolerance, understanding and pluralism, from autocracy to democracy in its various manifestations, and from a technologically divided world where high technology is the privilege of the few to a technologically united world, places enormous responsibilities on teachers who participate in the moulding of the minds and characters of the new generation” (P.6-7).

In findings from case studies of the introduction of the Intel Teach Essentials Course—a professional development program focused on integrating Information and Communication Technologies (ICT) into project-based learning—into six schools in India, Chile, and Turkey, Light (2009) suggested that mere introduction of a new tool, new practice or new policy in the classroom is not enough. Light (2009) further claimed that change is essential and possible only “by deeply reshaping life
in the classrooms—from educators’ beliefs about learning to the relationships that make up the school community” (p. 12).

Another survey conducted by the Central Square Foundation (2015) on early adoption of educational technology by 1110 school teachers, across rural and urban areas of India, to determine its availability, use, enablers and constraints among the teacher community revealed that most teacher training programmes in India have focused more on the technical and operational aspects of teacher professional learning of technology—rather than on pedagogical applications. The report claimed that technological infrastructure and training must complement to enhance the pedagogic approaches of teachers so that they could use it to improve teaching-learning process, therefore “creating a personalised training framework would enable teachers to receive training based on what they already know and what they need to know” (p. 25). Central Square Foundation (2015) suggested that along with becoming proficient in the use of technology, teachers must also be provided professional development with respect to the pedagogical application of such skills.

The National Curriculum Framework for Teacher Education NCFTE (2010) identifies universities, affiliated teacher education colleges and state centres for teacher training as the sites accepted for professional development, thus leaving other professional learning mediums out of the picture. State plays the role of sole provider of teacher professional development and disregards teachers’ informal agency and voluntary contribution to their own professional learning. As a result, the state officially recognises and supports only those professional development activities which are under their approval, control and management, though they may be irrelevant to teachers’ needs, whereas other learning activities related to teachers own interests and initiatives are neither recognised nor supported by the state. These state sanctioned professional development activities are generally large scale and do not cater for teacher’s diverse individual needs and contexts (Padwad & Dixit, 2014).

Teachers’ access to technology is emerging, but research has shown that there is inappropriate investment in technology tools supplied for teachers’ use and inadequate training to ensure that they are able to use them to maximum relevance (British Council, 2015). Projects in India, such as the Microsoft’s Project Shiksha in India, have delivered ICT training to teachers through collaborations between ICT companies and national and state level governments, but “it is fair to say that high quality standardised training for teachers on how best to exploit technology either for their own professional development or for use in the classroom is still rare – particularly for teachers working in the government or low-fee private school sectors in India” (British Council, 2015, p.29).

There are numerous challenges in the professional development of teachers in India. Some of the notable challenges are; “i) Large number of teachers do not have access to training; ii) Limited prospects for professional development opportunities iii) Shortage of teachers; iv) Inadequate infrastructure in meeting the training demands, and v) Bias still exist to adopt the new Technology” (Khambayat, 2015, p. 2).
Dissatisfaction with regimes of teacher education

5.3 The former Minister for Education, Christopher Pyne, argued that teacher education had become 'too theoretical', and that this contributes to problems in terms of graduate teachers' practical skill in teaching literacy and numeracy (Pyne, 2014). A recent report into ITE published under the ministership of Pyne put forth similar arguments, suggesting that the integration of theory and practice is underdeveloped in a number of ITE programs, and fails to be realised in the practicum experiences of student teachers (TEMAG, 2014, p. 18).

In news media, policymakers have joined others in expressing concerns about the academic abilities of teachers in recent years (Pyne, 2014; Piccoli, as cited in McNeilage, 2014). Dinham (2013) in part attributes a gradual decline in entry standards to the uncapping of commonwealth-supported university places, which he argues has enabled ITE providers to exploit the lucrative opportunity of large teaching cohorts (p. 99). Dinham and colleagues have sought to address this and become a key voice on these debates in the development of selection practices at their own institution, the University of Melbourne (Bowles, Hattie, Dinham, Scull, & Clinton, 2014). However, other researchers have challenged the basis of these concerns about academic standards (e.g. Graham, 2015; Ure, 2015).

As will be discussed further, the development of APST has been a key aspect of addressing perceived deficiencies in the quality of Australian teachers, and these are applicable to teachers at all levels of accreditation, including graduate teachers. However, many have argued that measures such as this have detrimental consequences in terms of how they frame teachers, their work, and a sense of teacher professionalism. In relation to some of the state frameworks that preceded the APST, Connell (2009) argues that these reduce the work of teachers to competencies, which reflects distrust for teachers, and may result in a narrowing of practice (p. 220). For Mockler (2013), national developments such as standards and emphasis on teacher development run the risk of reifying conceptions of a crisis in teacher quality, wherein teachers are positioned as both the problem and hope for its resolution (p. 36). Mockler argues that the relationship between such measures and a 'teacher quality agenda' focused on accountability and measurement frames such initiatives as an obligation that demands compliance from teachers, rather than an as opportunity to engage with notions of professional identity (p. 42).

The news report highlights some of the pressing challenges of teachers and teacher education within the Indian context. Without adequate government investment in teacher education, the Forbes article builds a case for increasing CSR investment in teacher education in India. It argues how both Justice Verma Commission (2012) and NCERT have been particularly critical of the curriculum and the pedagogy of teacher education in India, which ill-equiPS teachers to handle practical problems in the classroom.
Scholars have also criticized the DIET's dominant "skills and knowledge" approach of teacher development- both pre-service and in-service. They argue that there needs to be shift in training method so that teachers are engaged to adapt their training to the local context to improve the quality of teaching and learning. Focus of training needs to shift from acquiring "skills and knowledge" to the application of it in the local context. They also advocate for decentralized teacher education and incorporate "local knowledge" into teacher education programs (Dyer at al., 2004). In this context based on empirical data, Brinkman (2015) has critiqued postcolonial critique of learner-centred pedagogy also argued the need to shift the discourse from "learner-centred" to "learning-centred". She addresses issues of teacher's beliefs in her research and argues how much of the traditional cultural belief has been a Darwinian approach to learning. She emphasizes the need to "the need for questioning and contextualizing Western-originating pedagogies in keeping with local contexts, in order to ensure the success and sustainability of these reforms" (p.357). She quotes from noted Indian educationist, Krishna Kumar to highlight the major challenges of teacher's training and why much of the training does not create necessary impact.

On values and attitudes, the training process makes no impact; indeed, it is not intended to. The values imbibed from the dominant worldview of society are never challenged, so the young, trained teacher does not relate to policies which require a radical shift in values and attitudes. For instance, inclusive schooling requires a totally fresh perception of intelligence and ability. The dominant Darwinian view that only a few have talent is contradictory to the policy framework, yet it prevails because schools are rooted in it. (Kumar, 2008: 40 as cited in Brinkman, 2015, p. 345)

Chudgar (2015) argues that research on the performance of trained and untrained teachers also fails to find that trained teachers always perform better than untrained teachers within the Indian context. She further discusses issues of corruption in the teacher education examination system and problems of assessing teacher eligibility based on the TET exams, while not holding teacher's training colleges accountable for the appalling performance of teachers trained in their institutes. She concludes by saying that:

What should a rigorous model of teacher training look like for diverse learners in our country? These systemic questions need to be addressed for solutions that are long-term and sustainable. A focus on teacher assessment and accountability is important but the close to 16,000 teacher training institutes must also be held to account for providing appropriate teacher training. Without attending to how teachers are prepared and supported to teach in the challenging circumstances they often work in, our educational reforms will remain incomplete.

Based on this review of Indian government policy priorities and key reports and recommendations it is quite clear that leadership at the National level realizes the need and urgency of reforming teacher education within India. The government
policy priorities and NCTE and NAAC documents in recent times appear to be filled with global rhetoric of reforming teacher education for 21st Century learners. However, these policies are not coupled with adequate funding for research and development in the area of teacher education. As the Forbes news report states, there is also poor CSR funds available for teacher education. The ground reality is abysmal with poor delivery of teacher education by teachers training colleges, which follow the textbook oriented teaching and testing model of pedagogy, which the government policy priorities actually seek to change.

India’s National Knowledge Commission in its final report (2006-2009) has acknowledged that teachers are the most crucial component of the school system. Highlighting the value of competent teachers, NCFTE (2009) claimed that the quality and scope of learners’ achievement are possible essentially by teacher proficiency, and teacher motivation. The National Curriculum Framework (2005) positions distinct requirements and standards on the teacher, which need to be attained through both initial and continuing teacher education.

Newer roles and duties are being repeatedly established and modified for teachers in India. The changed roles for teachers include being a facilitator as opposed to a transmitter of knowledge, a counsellor, subject expert, ICT trainer, etc. Teachers, in addition to completing the given teaching workload, also work in planning and managing both curriculum-related and extra-curricular related tasks along with other administrative load.

The profiles of the learner and the classroom have also significantly transformed. Moreover, modified policies of education, changed curricula and updated materials keep bringing new expectations and regular challenges in teachers’ work. Teachers have been struggling with several macro-level and micro-level changes recently: the paradigm reallocation to constructivist and applied learning considered in the National Curricular Framework (2005); and the ever changing nature of teacher training itself under the various controlling agencies of in-service training (Padwad & Dixit, 2012).

In India, the National Curriculum Framework for Teacher Education (2009) developed by NCTE aims to ensure that in-service teacher education courses include the contexts, needs and vision of teachers, thereby making teacher education liberal, social and humanistic (Sharma, 2014). However, professional development offered by the central and state government favours large-scale formal training solutions which provide narrow possibility for need-based and flexible process (Prince & Barrett, 2014). The ability and experience of the teacher educators is inconsistent and the formal-conventional lecture method seems to overshadow, but, more seriously, follow-up and school based support is scarce (NCTE, 2010).

This limited vision of teacher professional development also misses a crucial purpose – the call for teachers to take charge of their own learning and the connected function of teachers’ intervention and voluntarism within this. The effectiveness of large-scale in-service training programmes is based on the extent
they allow teachers to render common prescriptions into individually pertinent insights and practice. Additionally, the official policy (and practice) underscores state domination over teacher education. “The planning, decision-making and implementation of CPD activities are usually the prerogative of ‘high-powered’ committees consisting of a few senior academic experts and educational bureaucrats, who usually stick to the policy guidelines already in place” (Padwad & Dixit, 2014, p. 251).

A further issue is that teachers are led to accept that their learning is the sole responsibility of the state and that they are incompetent of learning on their own initiative and/or intervention. Educational administrators and school managers tend to be reluctant and/or powerless (due to the restrictions of state regulations) to encourage any undertaking of teacher learning outside those directed by the state (Bolitho & Padwad, 2012). Teacher professional development in India is also controlled by the school management in the meaning that schools have a strong influence in what learning activities teachers may be permitted (and supported) to take on.

Generally, "schools in India operate within an ‘expert culture’ in the sense that teachers are expected to follow the advice of experts and authorities and not to rely on their own knowledge and skills" (Bolitho & Padwad, 2012, p. 12). In other words, teachers work in unfavourable conditions of very limited autonomy and agency. The unyielding solutions by ‘experts’ through formal training de-motivates teachers to a great degree. While teachers’ involvement is seldom taken into consideration in the planning and implementation of such programmes, follow-up and modification are also regarded unnecessary as the training is deemed to be complete in itself.

In short, in-service teacher education in India appears to endure a twin problem – on the one hand, schools managers, administrators and the policy makers do not seem to promote and support professional learning activities beyond teacher participation in the mandated training programmes, while on the other, teachers themselves seem to not have the interest and initiative for going beyond the mandated or taking responsibility for their own professional development (Bolitho & Padwad, 2012). Possibly under the impact of this long established narrow system, teacher education may turn out to be irrelevant to teachers’ needs and interests (Padwad & Dixit, 2012).

With rising enrolment in Indian schools to reach the mandate of Right to Education (RTE), there is a substantial increase in demand for teachers. The far surpassing demand for trained teachers as compared to the enrolment capacity of existing teacher education institutes has caused a rapid of inadequate growth of teacher education institutes. Raising the grave concerns on the issue of quality of pre-service teacher education programs, NCFTE (2009) observed that from 3199 teacher education institutions and an enrolment intake of 274,072 teacher trainees in 2004, there is an unprecedented rise in numbers with 12,266 teacher education institutions with an enrolment intake of 10, 73,661 teacher trainees in 2009. This increase has bargained heavily on quality parameters, such as course content,
infrastructure, student-teacher profiles, etc. The policy level initiatives to expand the number of teacher education institutions face acute faculty shortage due to non-availability of qualified and competent teacher educators. Moreover, the performance of the Institute of Advanced Studies in Education has come under severe scrutiny because of a lack of adequate research and development (NCFTE, 2009). Enlisting the concerns in Teacher Education, NCF-2005 identified the challenges, such as, “lack of language proficiency among teachers, uncalled repeated practice of isolated lessons as sufficient condition for professional development, no link between learning theories and classroom practices, lack of reflective discourse among teachers to examining their own biases and beliefs and excessively quantitative evaluation system in teacher education programs” (Sharma, 2014, p.7).

Both quality and quantity of teachers in India today position a foremost challenge. India has one of the biggest and most complex systems of teacher education in the world, with over 85% of all teacher training institutes in the private sector. It is alarming that of 785,227 qualified teachers who attempted then newly introduced Central Teacher Eligibility Test (TET) in 2011, less than 7% passed, although all of them had a teaching qualification. Grave drawbacks concerning the functionality of teacher education institutes were raised by the Justice Verma Commission Report (2012) that revealed: “Preparation of teacher education has remained a weak link in ensuring the quality of preservice teacher education; and, therefore, the issue of the profile of a teacher educator should receive due attention, transcending the existing thinking on the subject”. Even if it is discounted how well prepared teachers are, there are too few teachers who are skilled and competent to meet the rising demand (Singh, 2013).

**Recent reports into teacher education**

5.4 In Australia, there have been a staggering amount of government reviews into ITE (Louden, 2008), the most recent of which has been authored by the Teacher Education Ministerial Advisory Group (TEMAG, 2014) at the request of the former Federal Minister for Education, Christopher Pyne. For TEMAG, the ‘imperative for reform’ is related to concerns about declines in the learning outcomes of Australian students and waning public confidence in teachers and ITE (pp. 1-2). TEMAG argue that the quality of Australian ITE programs is inconsistent, as while there are some examples of excellent practice, “there are also significant pockets of objectively poor practice” (p. viii). ‘Poor practice’ is described as a failure to equip teachers with the requisite skills and knowledge required to lift student performance (p. viii), as well as a lack of transparency around the procedures employed in the selection of teacher candidates (p. 13). As such, they posit an opportunity to address these by building on other recent ITE reforms, specifically the introduction of the APST.

The central directions proposed TEMAG’s report pertain to the accreditation and regulation of ITE programs, the selection and admission of students to ITE programs, and attempts to integrate collaboration between ITE providers and schools more effectively (p. viii). While TEMAG suggested that a national regulator
should be appointed to preside over the accreditation of ITE programs (p. vii), the Government has opted for an existing body, appointing AITSL to this task (DET, 2015, p. 5).

AITSL have published a new set of standards and procedures related to the accreditation of ITE programs, the provision of professional experience for teacher candidates, and the assessment of teacher graduates (AITSL, 2015a). In addition, they have developed a set of guidelines for the selection of teacher candidates to ITE programs (AITSL, 2015b), as well as a research agenda for ITE (AITSL, 2015c).

For ITE providers, this means that processes for the accreditation of programs have become significantly more strenuous, as they must provide evidence annually to demonstrate continuous improvement in the quality of their programs (AITSL, 2015b, p. 5). In terms of teacher selection, AITSL have required Australian ITE providers to: subject all teacher applicants to assessment criteria inclusive of academic and non-academic qualities; provide a rationale for their measures and any exemptions made; and publish data on these processes and student cohorts more generally (AITSL, 2015b, p. 1). This tightening of entry standards coalesces with similar action already taken by some states and territories, such as NSW’s decision to enable only school leavers with at least three band fives (bands ranging from one to six) to be eligible to enter ITE programs (NSW BOSTES, 2015), and SA’s decree that all new teachers must obtain a Masters degree in order to become registered (Schriefer, 2013). Alongside the national activity from AITSL, the Federal DET has also introduced an exam in literacy and numeracy for all graduating teachers, which must be completed successfully as a requirement for accreditation (DET, 2015).

While not quite as extreme, aspects of the research agenda put forth by AITSL bear similarity to the emphasis on ‘scientifically-based research’ that accompanied the U.S. NCLB reforms (Department of Education (USA), 2002). It is pertinent to note that this has been highly controversial in the U.S., as many educational researchers using qualitative methods have felt that their work has been marginalised by the privileging of positivist research (e.g. Lareau & Walters, 2010; Lather, 2004). According to Lather, this brings forth a risk that other kinds of research with significant potential to contribute to the improvement of schools may be left aside in efforts to legislate “one-best-way thinking” (Moss et al., 2009, p. 506).

AITSL have also been the authority responsible for the Australian Professional Standards for Teachers (APST), which is a national framework that provides descriptors of competencies in various areas for teachers at the graduate, proficient, highly accomplished, and lead teacher level (AITSL, 2014b). These were developed by AITSL through drawing upon work previously undertaken by authorities, employers, and professional associations, and a validation process involving almost 6,000 teachers (AITSL, 2014c). The development of the APST follows and draws influence from similar initiatives in other Western nations, including the U.S.A. In relation to this context, Darling-Hammond (2008) argues that the development of effective standards has the potential to bring together a more cohesive knowledge
base for teaching that can aid teachers in their work, and to establish an enhance a sense of purpose and professionalism, which may have been lacking in teaching (pp. 28-30).

Ingvarson (2011) has argued that appointing AITSL to the task of developing the APST would be a means of enabling the teaching profession itself to be a more prominent voice in the definition and classification of quality in teaching (p. 10). This has been one component of AITSL’s objectives, alongside efforts to enhance communication between different stakeholders in ITE and teaching, aid teachers in their personal professional development, and raise the public esteem in which teaching is held (AITSL, 2014d). However, these standards are often associated with neoliberal ideology that brings forth the aforementioned issues in teacher trust, autonomy, and professionalism (Connell, 2009; Mockler, 2013). In relation to the implications of the APST for ITE programs and the candidates undertaking them, Allard, Mayer, and Moss (2014) suggest that they may be enforced in an arbitrary manner, and argue instead for graduate assessment that allows for attention to the contextual particularities of teaching (pp. 426-427).

Ongoing professional learning on an individual and collaborative level is a key component of the Australian Professional Standards for teachers (AITSL, 2014b). To this end, AITSL (2012) have put forth a framework for professional learning and development underpinned by personal reflection and goal setting, professional practice and development, and feedback and review (p. 3). While all states and territories are held to this requirement for formal and informal PD, this is approached through different mechanisms in each jurisdiction.

This is exemplified in NSW’s processes for the approval and provision of formal PD programs, wherein PD providers submit programs to the Board’s Quality Teaching Council for a review process, after which successful applicants may become board endorses providers, and advertise their courses as such (NSW BOSTES, 2016). While such programs can be particular to subject areas, schools can opt for PD focused on pedagogy specifically, such as the Quality Teaching Rounds program in which staff from various faculties collaborate (Gore & Bowe, 2015, p. 84).

Despite noble ideals, policy priorities and elaborate system of testing eligibility to be a teacher in the Indian classroom; the training is still apparently inadequate to help teachers deal with the practical realities and challenges of the Indian classrooms (particularly in the government schools) where most low-income students go to study. Several reports and committees highlighted the need to improve teacher education and the need to move from a more theoretical learning and testing model to practical experience oriented teacher education. Yet not much progress has been made as it is evident from this recent news report:

Imagine a situation where a teacher graduates from a District Institute of Education and Training (DIET) centre, earns her B.Ed or M.Ed degree and enters the classroom. Let’s assume she’s teaching at a low-cost government school. She’s excited and genuinely believes that she has the tools to help her students learn.
However, on entering the classroom, the teacher realises that the students in her class are at completely different academic levels and she has no idea how to teach in such a situation. Many of them are first-generation learners who may not get any academic support at home. Absenteeism is quite high and socio-economic circumstances like low income levels and a lack of proper nutrition affect the performance of many able students. To help her cope with these issues, she attends different types of training but there is no professional development programme which helps to better her knowledge and skills. The lack of proper training affects her teaching and consequently, her student’s ability to learn and perform well.

While this may be an extreme example, many teachers in India, especially those in low-income schools, have to cope with such issues every single day. (Prakash, 2016, n.p.).

The National Curriculum Framework for Teacher Education (NCFTE) (NCTE, 2010) identifies that professional development is crucial to accomplish the comprehensive goals of education, such as contributing to financial prosperity, social equality and technological innovation. The NCFTE posits that professional development should enable teachers to investigate, reflect on and improve their practice, extend their knowledge of the academic area, get ready for new expectations, overcome professional isolation and share their learning with other teachers. "Pedagogical knowledge has to constantly undergo adaptation to meet the needs of diverse contexts through critical reflection by the teacher on his/her practices“ (pp. 19-20).

The National Curriculum Framework for Teacher Education (2009) foregrounds five principles of teacher education that should inform the enterprise: “the integrative and eclectic nature of teacher education; its liberal, humanistic and non-didactic underpinnings; its multicultural and context-sensitive facets; the necessity for it to be transacted in a diversity of learning spaces and curriculum sites apart from the classroom; and, most importantly, reflective practice to be its chief aim” (Pickering & Gunashekar, 2014, pp 9-10).

A Teacher Eligibility Test was introduced in 2010 to ensure that professionally qualified teachers have the requisite knowledge before joining the teaching field. In 2012, the Justice Verma Commission Report on teacher education was submitted to the Supreme Court and deals with a range of issues which have an effect on quality improvement in teacher education as well as the regulatory functions of the National Council on Teacher Education (NCTE). In 2012, the Central Government approved revision of the Centrally Sponsored Scheme on Teacher Education for the Twelfth Plan with an approved outlay of Rs 63,080 million in a Centre–State sharing ratio of 75:25 (90:10 for the North-East region) and for the first time the Ministry of Human Resource Development instituted a Joint Review Mission on Teacher Education in 2013.
The National Council on Teacher Education (NCTE) is the highest agency which controls and supervises teacher education policy and programmes apart from also assigning general guidelines for regular professional activities such as in-service teacher education programmes. The substantial planning and functioning of these in-service teacher education programmes is assigned to national and state teacher training agencies, the National Council for Educational Research and Training (NCERT) and State Councils for Educational Research and Training (SCERTs), with autonomy to some extent permitted to adjust them to their own requirements.

Professional Development TPD has taken over greater magnitude in education around the world. Subsequent to this global development, professional development has come into the Indian education since the last decade rooting at the prospect of quality education for every student. The addition of a separate chapter on continuing professional development in National Curriculum Framework for Teacher Education (NCFTE, 2009) by National Council for Teacher Education (NCTE) carries evidence to it. The pivotal part played by teachers in achieving educational breakthrough is now well identified. This recognition has contributed to the switch in focus from materials and methods towards teachers (Gunashekar, Padwad & Pawelec, 2011).

The Government of India’s chief educational scheme, Sarva Shiksha Abhiyan (SSA), was established in 2002 to achieve the Millennium Development Goal of universal primary education. Teacher quality was considered fundamental to meet this goal and provision was made to give every primary school teacher a compulsory 20 days in-service training per year. But the arrangement sorely lacked, and still does to this day, experienced, efficient and skilled teacher educators competent to provide teacher training for the large numbers of in-service teachers in India (Prince & Barrett, 2014). The more recent education policy frameworks in India, such as the National Curriculum Framework (2005) and the National Knowledge Commission (2006-2009) see continuing professional development as the most imperative measure to fill the gaps of initial teacher training.

The Right to Education (2009) Act furthermore makes it mandatory for every teacher to be trained as per National Curriculum Framework for Teacher Education (NCFTE, 2009). The Commission also advocates peer learning and feedback, as a networked support system for teacher development. The National Council of Teacher Education (NCTE), a regulated and authorised body of the Government of India, has made certain recommendations about in-service teacher education (2009). One of the aims of CPD programmes as stated in the 2009 document is for teachers to ‘break out of intellectual isolation and share experiences and insights with others in the field, both teachers and academics ...’ (p. 65). For this, the need to create, develop and sustain “spaces for sharing of experiences of communities of teachers” (p. 66) is fore grounded.
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Chapter 6

Harnessing technology and the emerging challenges

The use and reach of technology

6.1. The use of communicative technologies has been critical in enhancing educational access for students in remote areas, and has become more sophisticated over time. In 1951, ‘Schools of the Air’ commenced, which was a program in which radio transmitters enabled two-way communication between students who could not attend schools, and teachers stationed at a base for the Royal Flying Doctor Service (Jones, 1974, p. 70). A contemporary method to address these geographical difficulties often relies on satellite-based telecommunications, through which interactive lessons can be streamed live, simultaneously reaching students in several different locations in real time (The University of Sydney, 2005). Alongside the DER and years following, activity in this area has increased, particularly from the Victorian Department of Education and Training, which has undertaken a number of initiatives to broaden the scope of virtual learning (VIC DET, 2013a; 2016).

Rao, Eady, and Edelen-Smith (2011) suggest that such developments have been particularly important for Indigenous students living in remote areas. This is because the medium allows reprieve from an over-reliance on text-based correspondence prevalent in other forms of distance education, whereas oral communication may be more culturally appropriate for students living in traditional communities (p. 26). However, challenges remain in relation to the necessity for reliable internet connectivity, and the technological skill required on part of the student to use and manage these tools (Rao, Eady, & Edelen-Smith, 2011, pp. 27-28).

Some see significant potential in technological initiatives to better respond to educational inequities, and have sought to develop tools to aid attempts to pursue a more level playing field for students from disadvantaged backgrounds. For instance, Southgate and colleagues have directed their attention to the barriers faced by students from disadvantaged backgrounds in tertiary education, and developed a number of smart phone applications to assist such students in areas such as study skills and literacy (The University of Newcastle, 2016).

As part of the Digital Education Revolution (DER), all Australian students within the allocated age range and time frame of program were provided with their own laptop by the Government (DEEWR, 2009, p. 2). While this program has ceased, Softlink’s 2013 Australian School Library Survey indicates that "one third of Australian schools encourage students to bring their own device", with those in Years 8 and 9 encouraged to bring a tablet, or a laptop if they were not in receipt of the laptops provided by the government (Borrey, 2014, n.p.). However, such practices bring forth a range of issues in equity and access. In their study of the implementation of a ‘Bring Your Own’ device policy in one school in New Zealand, Adhikari, Mathrani,
and Parsons (2015) found that, for those with devices, there may have been problems in terms of access to the internet at home, and for those without devices, inequities emerged in terms of the types of devices affordable for different families (p. 5). Some Australian schools have implemented compulsory BYOD policies, and while many of these schools have developed procedures to assist families with financial difficulties in purchasing devices, these options are inconsistent across school and often poorly publicised (Janssen & Phillipson, 2015, n.p.).

India as a developing country has experienced both advances and a whole lot of challenges in ICT (Byker, 2014). One of the major challenges is the considerable gap in education related to technology -what we call the digital divide. Over 210 million children study across 1.6 million schools currently within the Indian educational system. Within this huge and complex system, India has two corresponding yet contradictory types of schools, broadly categorised as Government schools and private schools. The private schools have more or less well maintained infrastructure and better facilities than Government schools. Excluding few exceptions, Government schools are in miserable conditions (Thakur, 2014). Although Government schools are funded substantially by the government, students studying in these schools are deprived from technology integrated teaching-learning environments (Thakur, 2014). Also, there have been colossal disparities in the geographical and demographical use of radio, interactive television, Internet etc. to promote primary and secondary education. Some Indian states have an enabling technology environment that allows for its greater use in education, whereas other states lack such an environment making the use of technology for this purpose very intermittent (InfoDev, 2010).

The state of rural education in India is very poor (Budhedeo, 2016). There are very few schools in rural areas while private schools are largely concentrated in the urban areas. This disparity is significant since as per the 2011 census nearly three-fourth of the Indian population lives in rural areas of India. Children in rural areas have to travel far away distances to avail basic education facilities. In fact, majority schools in rural areas do not provide computer at all and many schools don’t have basic infrastructure, classrooms, or even a teacher (Budhedeo, 2016). Recently, measures have been taken under India’s National Policy on Education (NPE) to reduce and remove rural-urban disparities and promote diversified and better employment opportunities in rural areas. According to the Annual Status of Education Reports ASER (2014), rural schools have seen a small increase in the availability of computers recently.

A similar discrepancy could be seen in the primary and secondary level of education in India. The National Policy on Education (NPE) clearly prioritises the development of ICT infrastructure at the secondary level. Over 45% of secondary schools in India have computer laboratories compared to 17% of primary schools (UNESCO-UIS, 2014). Moreover, socio-economic and gender concerns about a growing digital divide are clear: by and large, urban males from middle to upper socio-economic
backgrounds, and attending high-fee-paying private schools, have greater access to technology than those from other groups (British Council, 2015).

The Government of India in the Ministry of Education and Social Welfare realized the importance of Education Technology for Qualitative improvement of education and included the Education Technology Project in its Fifth Five Year Plan in 1971. Accordingly, unit was started in the Ministry since 1971 and a technology cell in the NCERT was set-up during 1973. Education Technology Cells came into being in different states from 1972-73 onwards. Despite this early awareness and initiative on behalf of the Indian government, access educational technology in Indian schools is very poor.

Over the years, various kinds of ICT tools have been promoted for primary and secondary education. These include radio, satellite based one-way and interactive television, and the Internet. However, there have been enormous geographic and demographic disparities in their use. Some states in the country currently have an enabling environment in place that allows for a greater use of ICTs for education, whereas other states lack such an environment making the use of ICTs for this purpose very sporadic. A position paper by NCERT (2006) clearly states that:

*The key to meeting this challenge is an appreciation of the role of ET as an agent of change in the classroom, which includes not only the teacher and the teaching-learning process but also systemic issues like reach, equity, and quality. Over the past decades, educational technology in India has taken two routes:*

*The first route involved a large number of experiments aimed at the qualitative improvement of schools, adopted the systems approach to analyse the problems plaguing the particular situation, and have evolved a range of solutions. These have included the development of flexible systems, alternative curricula, multilevel organisation of classes; low-cost teaching-learning materials, innovative activities, continuous support systems for teacher training, etc. While many of these experiments have demonstrated intrinsic merit, they have been restricted to pockets of intense practice and have failed to influence the larger school system.*

*The second route is government sponsored schemes such as the Educational Technology (ET) Scheme and the Computer Literacy and Studies in Schools (CLASS) and their present-day analogues, including partnerships with global players. This included the supply of radio-cum-cassette players, colour televisions, microcomputers, present-day computer labs, and even satellite-receiving terminals. These schemes have largely remained supply-driven, equipment-centred, and disseminative in design. Scant attention has been paid to the development of the entire support system that would establish ET as a reliable, relevant, and timely intervention, and despite clear indications of the necessity for this action.*
In a 2010 report by PricewaterhouseCoopers (2010) on ICT in school education (primary and secondary), a comparative chart from UNESCO Bangkok 2008 on the Asia-Pacific region including India and Australia shows that, while there is high appreciation of technology in both countries, there is very low availability of technology in Indian schools compared to Australia [ICT in School Education (Primary and Secondary), p. 5-6]. In another recent report released by Gray Matters Capital based on research conducted in 2012 and 2013 in Hyderabad, India (Campbell, Mehr, & Mayer, 2013) on the use of Technology in Indian schools and especially affordable or low-cost private schools; the authors highlight that there is lack of awareness about how technology can enhance teaching and learning.

There are various sociocultural and economic barriers as the earnings from low-income parents can be volatile and teachers are not trained about how they can use technology to improve teaching and learning of students. Often, technology is viewed as a business and marketing tool. Moreover, school leaders show interest in educational technology only when it can supplement school textbooks and the set curriculum to teach for the tests. A number of ed-tech start-ups have come up in recent years to meet this demand. Most notable of them are Educomp (2015) and Tata Class Edge by the Tata Interactive Services (TATA Class Edge, 2016). These private ed-tech companies are mostly supplying hardware and software as supplement to regular school textbooks.

There is real need for interactive digital content development in Indian languages, even in the most common languages, such as English and Hindi (Unlawyered, n.d.). These companies are also serving a minority elite population of students within the larger Indian context. This is those who have the means and resources to study in a urban private fee-paying schools. Tata ClassEdge is currently reaching less than 1% of the student population, mostly in urban areas. However, with over 1.27 billion population and a projection of mostly young population under the age of 29 years by 2025; the 1% reach is not insignificant, as it is claimed by an Irish partner of ClassEdge (Learnovate Centre, 2015).

In 2013, a new private University in India launched an experimental RITE- Rural India Tablet Education project (AVVU, 2013) in 101 villages across the country with initial funding from the Ministry of Human Resource and Development. The goal was to use tablet technology to help children in rural schools develop basic literacy, language learning, science and mathematics though online simulations and o-labs. They were also invited by USAID recently to showcase their online labs as part of the RITE program. However, the impact of this learning intervention has not been systematically evaluated yet to scale it up for the future.

**Challenges in the use of technology**

6.2 . The students to which technological initiatives are addressed are often referred to as ‘digital natives’, as they have grown up with technology that is far more advanced and accessible than it has been in previous
generations (Lowe, Lee, Schibeci, Cummings, Phillips, & Lake, 2010, p. 230). An aspect of this is the growing ubiquity of social media in the lives of young people, which Strivastava, Gamble, and Boey (2013) suggest has enabled bullying to extend beyond the school and into online spaces, sometimes with dire consequences (pp. 25-26). Pearce, Cross, Monks, Waters and Falconer (2011) argue that while ‘whole school’ approaches are optimal in addressing these issues, schools may be reluctant to commit to particular programs, and problems in terms of staff support and clarity in procedures often emerge (pp. 6-9). Consequently, the use of social media for Australian teachers has become fraught with professional, ethical, and in some cases legal, risk (Russo, Squelch, & Varnham, 2010).

In the U.S.A, this growth in the popularity of social media has also brought forth instances of unprofessional conduct in relationships between students and teachers that authorities have struggled to address (Bon, Bathon, & Balzano, 2013). Similar issues have emerged in Australia, seen in the suspension and dismissal of a number of teachers in Queensland in recent years following inappropriate interactions with students (Vonow, 2015). Some State Code of Conducts for teachers have explicitly addressed the relationships between teachers and students on such platforms, as well as the ways in which teachers might ‘represent’ their employers in their own personal engagements on social media (e.g. NSW DEC, 2014a; VIC DET, 2013b).

The biggest challenge within the Indian context still is access to technology, not just for school students but also for teachers. Since the growth and access has been mostly in the private sector, large sections of the masses do not have access to ICT for teaching and learning purposes (NUEPA, 2011). Adequate pre-service and in-service teacher’s training to use technology for enhancing teaching and learning is the next big challenge. The research on educational technology use and impact within India is so far very scant. However, existing research so far among shows great promise for scaling up technology use to assist diverse learning needs of students (Byker, 2014, 2015a, 2015b; Mitra, 2002; Azim Premji Foundation, 2008). Based on his ethnographic research in rural South India, Byker (2015) talks about “one laptop per school” in rural Karnataka and TamilNadu, where the one laptop in the school becomes prized possession for the entire village and children learn basic computing and English language skills using the laptop.

The access to educational technology is still so limited in Indian schools; this is not yet a major issue. More Indians now have access to smart phones and internet, rather than a computer and broadband. But, use of mobile phones by school-age children is very limited. Schools adopt the policy of banning cell phones in schools. CBSE also released official circular banning cell phones in schools in 2009 (Bharadwaj, 2009). In some cases in rural areas, bans are particularly imposed on young school girls from using cell phones by village elders in Panchayat (local village government) to protect young girls from potential sexual predators online (PTI, 2016). In most cases a strict disciplinary action is taken when students are found guilty of using cell phones in schools.
Schools in India confront multiple issues and challenges in the implementation of technology. Moreover, the issues and challenges are much more amplified in case of schools located in rural areas of India. For rural schools in specific, the introduction of ICT faces hindrances in the form of barriers such as lack of trained teachers, unfavourable organisational culture and negative attitudes of teachers, shortage of time, issues of maintenance and upgrading of ICT equipment, insufficient funds, lack of technical support, outdated infrastructure, frequent power cuts, low internet speed etc. (Budhedeo, 2016).

Pulist (2005) in an exploratory study on secondary and senior secondary level schools of Delhi identified that lack of computers with Internet connection, pressure of curriculum on teachers, lack of teacher motivation, lack of technical expertise, regular power cuts were seen as barriers for the use of web-based technology in the classroom. Byker (2014) identified lack of resources, lack of teacher preparation and lack of local understanding as the barriers for information and communication technology programs in India's elementary schools. Sharing of ICT resources, teacher training initiatives and socio-cultural research on ICT use in India’s schools are possibilities and innovative ways in which technology could be used to help support the education of India’s children (Byker, 2014). A recent large scale study of 749 secondary school teachers in India by Prasad, Lalitha, & Srikar (2015) showed that lack of funding, lack of ICT integration and lack of connectivity were found to be most critical barriers to the use of ICT in secondary schools. Three barrier-factors were identified in the findings: lack of school support, lack of ICT infrastructure and lack of teacher motivation and teacher self belief.

**Government policies and programs**

6.3 The use of technologies in schools has long garnered immense popularity in Australian policy, manifesting in various programs, curriculum initiatives, and teacher development courses to support this agenda (Moyle, 2002). This has intensified since the turn of the 21st century, seen most markedly in the initiatives associated with the Rudd Labor Government’s 'Digital Education Revolution' (DEEWR, 2009). More recently, the current Turnbull Coalition Government have invested in expanding opportunity for the use of technologies in school to develop IT literacy as part of their National Science and Innovation Agenda (Commonwealth of Australia, 2016).

The 'Digital Education Revolution' (DER) was an ambitious agenda for education put forth by the Labor Party in the 2007 election, after which they formed Government. The DER was a $2.4 billion federal initiative, for which a key component was the National Secondary Schools Computer Fund (NSSCF). However, as the funding provided for technical training and support was not sufficient, and State Governments were unable to make the shortfall, an additional $807 million was provided to remediate this. Others areas for support were identified, being the availability of high-speed broadband, and the training of teachers in use of such technologies (Joint Committee of Public Accounts and Audit, 2011). As will be
elaborated upon, some have argued that the promise of the DER has fallen short in a number of aspects (e.g. Fluck, 2011; Nielsen, Miller, and Hoban, 2011; Buchanan, Holmes, Preston, & Shaw, 2012).

More recently, the first ‘digital technology’ curriculum has been introduced as a component of the Australian National Curriculum, for which provision is mandatory for all students from Foundation to Year 8 (ACARA, 2010-2016). This curriculum contains subjects designed to foster skills such as critical thinking and problem solving and computational thinking and digital solutions, with the aims of assisting students in interpreting and drawing upon digital metalanguage, developing capacities in creating and managing digital solutions, and encouraging safe and respectful digital communication (Trevallion, 2014).

The online provision of the NAP is another recent initiative to which the government has declared its commitment with the objectives of improving accessibility and expediency (DET, 2015). Alongside this, State, Territory, and Federal Ministers for Education have introduced the National Schools Interoperability Program (NSIP), which focuses on the improvement of the technological infrastructure required to support such initiatives, and also hosts a network by which resources to aid digital education can be shared across the country (Borrey, 2014, n.p.).

India has explicit goals in terms of growing its economies and developing its infrastructure to facilitate better access to information and services to its population via technology. The Information and Communication Technology (ICT) in Schools Scheme in India was launched in December, 2004 (Revised in July 2010) to provide opportunities to secondary stage students to mainly develop their capacity on ICT skills and make them learn through computer aided learning process. The Scheme provides support to States/UTs to establish computer labs on sustainable basis (Lalitha & Prasad, 2014).

In 2009, the Gujarat state government in India allocated $127 million to develop a satellite link to primary schools, equipping them with state-of-the-art televisions. This Virtual Classroom project is ongoing and has had some success with reaching large numbers of young learners to improve their skills in English, maths and science (British Council, 2015). Another project in India, called the BridgeIT project, encourages teachers to show their learners videos received on their mobile phones via a cable linked to the TV. Also, India has a dedicated radio station focusing on educational programming, Gyanvani, overseen by the Ministry of Education.

The Department of Education, Government of Delhi, with 40,000 employees, 928 schools, and more than 120,000 students under its administrative jurisdiction has developed a comprehensive and functionally effective Web-based and GIS-based Management Information System (MIS). All the schools, zonal offices, district offices, regional offices, and various branches at the headquarters can share information using the Web-enabled software. Information for all stakeholders—students, teachers, and administrators—is available online through the Directorate’s Web site
(edudel.gov.in); this includes information on admissions, mark sheets, teacher attendance, transfers, pay slips, and so on (InfoDev, 2010).

The National Policy on ICT in School Education (MHRD, 2010) by the Government of India endeavours to create (1) an environment to develop an ICT knowledgeable community (2) an ICT literate community who can deploy, utilise, benefit from ICT and contribute to nation building (3) an environment of collaboration, cooperation and sharing, conducive to the creation of a demand for optimal utilisation of and optimum returns on the potentials of ICT in education (MHRD, 2010, p. 4). The Sakshat Portal of Government of India, National Program of Technology Enhanced Learning (NPTEL), the Multimedia Educational Resource for Learning & Online Teaching (MERLOT) are ongoing initiatives in India for developing digital repositories aimed to provide quality digital content for both teaching and learning purposes (InfoDev, 2010).

In recent years several initiatives are ongoing for creating digital repositories and promote e-learning. The Sakshat Portal of Government of India was launched by the then Hon’ble President of India, Dr A. P. J Abdul Kalam on 30th October 2006 (MHRD, 2009). It was announced that the Central Board of Secondary Education (CBSE) has joined this unique endeavour to facilitate particularly Class XI and XII students. The portal became fully interactive from 26th January 2007. It was announced by CBSE that students can make one to one interactions with subject experts selected by the MHRD and CBSE by logging-in to the Sakshat website on all days between 5pm -11pm.

The National Programme on Technology Enhanced Learning (NPTEL) was initiated by the Indian Institutes of Technology (IITs) and the Indian Institute of Science (IISc) Bangalore in 1999 through a joint workshop organized by IIT Madras with participation from four other IITs, four Indian Institutes of Management (IIMs), industry and Government officials and Carnegie Mellon University, Pittsburgh, USA (NPTEL, n.d.). However, their work was mostly involved online teaching and learning material for hard sciences, engineering and IT programs at the undergrad and postgraduate level without much attention to develop e-learning programs and training of teachers.

The use of technology for improving pedagogy

6.3 In recent years, the use of interactive white boards (IWD), often referred to as SMARTboards, has increased. While views of the value of this tool and confidence in its use are varied amongst teachers (Howard, Thurtell, & Gigliotti, 2012), Harden-Thew (2012) provides a positive assessment, drawing particular attention to its capacity to support the introduction of students into primary schools in the early years. She illustrates instances in which teachers have incorporated this technology into collaborative activities that both address skills in literacy skills, and provide opportunities for students to share their learning and support that of their peers (p. 35).
In recent years, proposed by the National Knowledge Commission, an online portal was created for teacher (Teachers of India, n.d.) in 2008. It is an initiative of the Azim Premji Foundation. It is a platform for teachers, teacher educators and others working in education within India to share their knowledge and experience on a common platform. The website claims that, "The range of teaching and learning resources available to teachers on the portal will enrich their knowledge of subject content and pedagogy, demonstrate new approaches to classroom practice and provide concrete support in the form of teaching/learning material.... Keeping in mind the philosophy of the National Curriculum Framework, the resources strive to demonstrate an exploratory, experiential approach that ensures the active engagement of the learner. They also demonstrate good classroom practices like collaborative group work, differential learning, the respect for multiple intelligence in the classroom, continuous and comprehensive evaluation etc. The resources are sensitive to the socio-economic context of the learner and are free of any social, cultural, gender, caste or religious prejudice." It invites any teachers and educational organization within India to log-in to the site and contribute their teaching and learning materials.

Technology has long been recognised as having the potential to renovate teaching and student learning in India. The core principle of many initiatives has been that learning will take place if teachers and students are given direct access to technology. However, regardless of extensive research, there is not much evidence to support the value of these initiatives. Ideas such as the massive open online course (MOOC) and One Laptop Per Child (OLPC) project were at first acknowledged as the “next big thing” in Indian education as they were understood as an approach to provide access to education to all. However, most studies demonstrate that these initiatives have been unsuccessful to meet the teaching learning outcomes: “course completion rates on MOOCs are usually less than 7 percent, often because of a lack of personal contact” (Dutta, Geiger & Lanvin, 2015, p. 73).

A similar promise and then letdown has been seen in the much-hyped Hole-In-The-Wall project. Even though it was a purposeful effort to deal with the drawbacks of access and other restraints in developing areas of India, it has been unsuccessful in creating any lasting change in Indian education (Dutta, Geiger & Lanvin, 2015). The influence of One Laptop Per Child (OLPC) or any 1:1 technology project is crucial for a developing country, such as India. However, these projects could have a financial impact, especially where classrooms and teachers are more urgently needed. Therefore India chose not to expand their One Laptop Per Child (OLPC) project beyond a pilot phase (Kraemer, Dedrick, & Sharma, 2009).

These highly promoted projects in India have not been successful mainly because they have ignored the teacher's imperative role in the learning experience of the child. Decades of research have shown that India needs better teachers. “This lack of emphasis on the teacher (sometimes to the point of ignoring the teacher's role altogether) is the main reason that the much-hyped investments in educational technology that seek to go directly to the learner have not paid off” (Dutta, Geiger & Lanvin, 2015, p. 73). Pre-service and in-service teacher education should be the
principal concern for education policymakers in India—rather than the current fashion of investing in technology that appears to offer a shortcut to higher school standards. “It is not that ICTs do not have any role to play in the educational process: an emphasis on developing the capacity of the teacher, rather than the student, is what will yield the greatest dividends” (Dutta, Geiger & Lanvin, 2015, p. 74).

The education system of India is extremely complex with the dilemma of scale. Over 200,000 new teachers qualify each year in India, and 7.2 million in-service teachers are in need of professional development. Enabling newly qualified teachers with an improved competency, or developing the capacity of in-service teachers, is no ordinary task in India. Dutta, Geiger and Lanvin (2015) consider a lack collaborative professional learning using new technologies in India as one of the crucial challenges which must be dealt with if India is to capitalise on the potential of technology in education.

People in India are beginning to use technology in a number of different ways. Jeffrey and Doron's (2013) broad snapshot of contemporary India confirms that in just over a decade, the mobile phone transformed from a rare, luxurious and unwieldy instrument to a palm-sized, affordable staple, taken for granted by poor fishermen in Kerala and affluent entrepreneurs in Mumbai alike (Jeffrey & Doron, 2013). In 2001, India had 4 million cell phone subscribers. A decade later that number had grown to more than a staggering 750 million. The number of Internet users also is increasing substantially in urban India. Research shows that there were approximately 130 million active Internet users in urban India in June 2013 and 137 million active Internet users in October 2013 (IMAI & IMRB, 2013). In terms of use of social media urban, India will register only a sharp and constant rise (Mahajan, 2009). 56% of Indian net consumers do social networking over the Internet (Mahajan, 2009).

However, an investigation by Chattopadhyay (2013), concerning 46 teachers of English from the different states of India, demonstrated that the application of web tools for socialisation invites more interest from Indian educators, than their usage for teaching and for professional development. The weekly standard use of web tools in teaching English is 11.4% compared to 24.5% in social lives of teachers in India. They have quite limited knowledge and understanding regarding the potential benefits of web-based professional development (Chattopadhyay, 2013). It is timely that this rapid spur in the use of social networking and other Web 2.0 tools for personal communication could be taken advantage of, for influencing the professional practices of English teachers in India.

Bedadur (2012), researching on the use of mobile phones by rural teachers of English in Karnataka, for their professional learning, described that “the pedagogical design of a professional development plan has to be collaborative to succeed. Moreover, it has to be an initiative driven by the participants” (p. 94). Somekh (2008) considers the integration of ICT as much as a social process as it is a technical process. Recent research in India, on the professional development of
teachers, is starting to yield a consensus concerning the social characteristics of effective teacher learning (Gupta, 2014). Teacher interaction is what drives real learning and change in the teacher professional development of teachers in India (Gupta, 2014; Mahajan, 2009).

A study by Rahman and Borgohain (2014) of the continuing professional development practices of secondary schools English teachers in the Assam region in India shows that the teachers’ use of Internet for updating their professional competence in teaching English was found to be low. If schools in India wish to actualize effective learning, then they and their teachers need to reconsider their professional learning approaches and realign their learning with the pedagogical potentials that Web 2.0 technologies offer (Chattopadhyay, 2013).

According to a report by InfoDev (2010), the development of peer learning networks is now beginning to be considered as crucial in India to improve training and continuing professional development. Portals for teacher networking are being developed where they freely collaborate to impart ideas. The Government of India’s Sakshat portal gives teachers a web-based prospect to connect with each other and share experiences. The Azim Premji Foundation and the National Knowledge Commission of India has worked with teacher networks across six Indian states by developing an online portal called The Teachers of India. The portal, involving a few thousand teachers, was initiated with the purpose of providing an environment for teachers to easily network across languages, and access updates resources and new trends in education from all over the world in all Indian languages (InfoDev, 2010). Another project launched in Kerala state of India enabled around 100 trainee teachers to participate in a study of the benefits of the use of social networks. The project was embraced by the trainee teachers, who were able to develop regular interaction with their online peers as part of their professional learning (Nayar, 2012).

In 2013, the Digital Empowerment Foundation in India’s first South Asia Summit on Social Media for Digital Empowerment demonstrated a growing recognition in India that mediums such as Facebook and Twitter provide Indians an opportunity to connect with a community beyond their physical location. The development of Open Educational Resources could be a flexible and accessible way to meet teachers’ needs and interests. Several projects, such as The Open University in the UK’s TESSIndia project and MOOCS by the British council, are enabling large numbers of teachers to access high-quality online training for free, including interaction with large numbers of other professionals from around the world (British Council, 2015).

**Emerging issues in the use of technology in education**

6.3 While the provision of laptops for all students as part of the ‘digital education revolution’ was a bold initiative for Australia, Fluck (2011) suggests that Australia’s international leadership in this area has waned. He argues that some significant factors contributing to this include: disparities in the financial contribution parents were able to make in resourcing the use of these laptops;
inconsistencies in the ownership practices of the laptops (e.g. whether students were able to take the computer home with them); and unforeseen technological difficulties (p. 14).

In their year-long case study of the experience of two highly experienced high school Science teachers attempting to implement greater use of technology following the provision of school laptops, Nielsen, Miller, and Hoban (2012) found that similar problems emerged. While the teachers they studied were committed to the use of digital technology, their efforts were obstructed by the inadequacy of the school’s wireless network, which caused problems in terms of the sequence of the lesson and in classroom management (pp. 15-16).

Nielsen, Miller, and Hoban (2012) also found that students were reluctant to engage with these sort of tools, and teachers perceived that they were not particularly amenable to more cognitively demanding activities (p. 16). In symposia focused on the rollout of the DER involving over 700 teachers and school leaders from all over Australia, concerns were raised about limitations in the teachers’ own abilities to realise the potential of DER programs, the capacity of school executive to provide support, and the information and connectivity that would be required by students (Rosman, White, & Hoad, 2008, p. 18).

6.10. The Government of Delhi, in India, has been a pioneer in using ICTs for better administration of the education system. The Department of Education, Government of Delhi, with 40,000 employees, 928 schools, and more than 120,000 students under its administrative jurisdiction has developed a comprehensive and functionally effective Web-based and GIS-based Management Information System (MIS). All the schools, zonal offices, district offices, regional offices, and various branches at the headquarters can share information using the Web-enabled software. Information for all stakeholders—students, teachers, and administrators—is available online through the Directorate’s Web site (Directorate of Education, n.d., WB DSE, n.d.); this includes information on admissions, mark sheets, teacher attendance, transfers, pay slips, and so on.

The State governments across India are also slowly beginning to develop their own web-based educational management and administration systems for school education within their respective states (e.g. ML DE, n.d.; WB DSE, n.d.e.). However, they are often challenged in this matter due to lack of adequate financial resources compared to Delhi, which gets lot more capital and resources as the Nation’s capital.

The integration of computers into daily classroom pedagogy is gaining attention and gathering momentum in developing nations. However, recent research published by OECD (2015) reports that the sole reliance on the use of technology in teaching does not improve the students’ learning outcomes. The One Laptop Per Child (OLPC) project has been criticised for large investments on hardware with little evidence supporting sustainable return. The Aakash project in India which aimed to provide low-cost tablets to students is also reported to be a failure in terms of its impact on student learning and the quality of the devices (British Council, 2015).
A study by Bhalla (2012) on 20 schools of Delhi region of India reveals that time was perceived to be the strongest barrier to computer use by school teachers in teaching-learning process. Other barriers were access, support, training and competence. Various aspects related to characteristics of students and attitudes of teachers were also considered to be the barriers to computer use by a few respondents.
References


Chapter 7

Issues of Demography and Rural education

Population shifts and educational planning

7.1. Korckenberger (2015) outlines how, since 2000, Australia has experienced increases in population slightly greater than historic trends, causing it to have one of the fastest rates of population growth in the OECD (p. 3). He identifies that migration patterns have contributed to this significantly, with the majority of migrants residing in city centres (p. 3). Such patterns require the establishment of new schooling facilities, and Goss (2016) speculates that inner-city areas are likely to be most significantly affected, which may cause families difficulty in accessing well-resourced public education.

Massey and Parr (2012) identify that migrant populations in rural and remote areas have also been growing, aided in part to federal policy initiatives since 1995 that respond to skill shortages and critiques of urban migration. Corbett (2015) explores the related population phenomena of people leaving rural areas for urban ones, the deployment of workers in rural areas “to deal with episodic capital expansion and extraction projects”, and the movement of migrants to such areas as temporary foreign workers (p. 12). He associates these developments with the displacement of current populations, which he argues may be read alongside deficit discourses that suggest that rural people are “expelled through their own fault and their own failure to modernize/educate themselves” (p. 13). Consequently, the disadvantage experienced by young people in rural areas is naturalised, and disassociated from broader economic and social forces. Education is a key area in which this systemic disadvantage plays out.

India is supposedly experiencing a youth ‘demographic boom’ and supposed to reap its youth ‘demographic dividend’ in the labour market in the near future. The International Labour Organisation (ILO) has predicted that by 2020, India will have 116 million workers in the work-starting age bracket of 20 to 24 years, as compared to China's 94 million. However, a recent news report quotes the head of a philanthropic foundation, Sampark to raise questions about this myth since:

  Almost half the students in Standard V in the country's public-funded schools, where about 144 million children study, are unable to recognise numbers beyond 99 or read simple English text, according to Mr. Nayar.
  "A large pool of this will come into the job market. Is this a demographic dividend or a disaster?" he asked.
  (Nayar, as cited in Jagannathan, 2016).

Though the Right to Education Act (MHRD, 2010) affirmed the rights of every child to an elementary education and government responsibility in making sure all
children are in school and provided quality education, empirical reality as shown by researchers so far is not very promising.

Rural and remote education

7.2 In a recent Federal publication on school funding, commonly referred to as the Gonski Report (Gonski et al., 2011), students in remote and very remote areas were identified as a group experiencing disadvantage in terms of educational outcomes and attainment (p. 28). This has been an enduring problem in Australia, which has long been subjected to ameliorative efforts. As Jones (1974) outlines, since 1945, concerns for the quality of rural education have manifested in developments such as the expansion of correspondence education, investment in more varied facilities for isolated schools, the growth of agricultural education, and the establishment of technical colleges in country towns (p. 41). Since this time, the methods employed for correspondence education have become exponentially more technologically advanced than those afforded by a former reliance on mail and two-way radio (Jones, 1974, p. 70). In contrast, current technological capacities enable the live streaming lessons for students in a range of locations through satellite-based telecommunications (The University of Sydney, 2005).

In spite of such advances, schools in rural and remote regions continue to face significant difficulties in terms of internet connectivity, and the provision of technological infrastructure and resources. The Rural and Remote Education Advisory Council (RREAC) (n.d.) provides an account of how different school sectors in WA have experienced and grappled with these problems. The Australian Independent Schools of Western Australia (AISWA) has 41 schools in regional and remote areas in WA, 13 of which are remote Aboriginal schools (p. 2), with each school responsible for its own technological infrastructure and decisions as to the best use of IT. While this organisation has collaborated with private corporations on initiatives to improve connectivity that has led to some benefits, difficulties in terms of the exorbitant cost and the quality of service persist (RREAC, n.d., p. 2). The WA Department of Education, responsible for the management of public schools, also struggles to provide schools in regional and remote areas with the internet speeds and technical support enjoyed by their metropolitan counterparts (RREAC, n.d., p. 3).

Understaffing in rural areas is also a chronic challenge, both in terms of the general availability of teachers and school executive (Roberts, 2005, p. 78), and the availability of teachers in curricular areas of needs, such as STEM related subjects (Whannell & Tobias, 2015). Respective State and Territory Departments of Education undertaken various attempts to incentivise teaching in such areas through initiatives that provide teachers with greater access to preferential location transfers in future, subsidised housing, and additional days of annual leave (Roberts, 2005, p. 20). However, for Capeness (2015), while recent policy developments may assist in ensuring that teachers experience working in rural contexts, this may not be sufficient in preparing teachers for the demands this entails, and may exacerbate the dominance of inexperienced teachers in such settings (p. 95).
Education in rural areas in India is very poor. All major data sources—both the Government of India, DISE data and the ASER data released by the NGO Pratham since 2005—show that the state of rural education in India is appalling. Children in class 7 and 8 in school cannot read textbooks from class 3 and cannot solve math problems from class 3. Because of extreme inequality and poor condition of most villages in contemporary India, rural schools also lack good teachers. The best ones tend to migrate to the cities for better jobs and comforts of daily living. Agarwal (2014, p.18) writes:

The Public Report on Basic Education (PROBE) in India gives discouraging view of the education system in the rural sector of some states—‘dilapidated’ infrastructure, ‘demotivated’ teachers, ‘paralysing’ curriculum and ‘irresponsible’ management (Probe Team, 1999). The revised PROBE report, which is based on the findings of a survey conducted in 2006, states that nothing had changed in this respect; half of the government schools still had no teaching activity (De et al., 2011). While many positive changes have taken place over the past decade, many fundamental problems including low classroom activity, the poor quality of education and discrimination due to social disparities in schooling opportunities remain to be addressed.

Hence, even the poorest of the poor illiterate parents in India have a perception that private schools provide better education than government schools, simply because there is less teacher absenteeism in these schools. However, research shows that there is no significant difference in learning outcome in these schools and quality of teachers and teaching is also very poor. But, poor parents get into debt to provide education for their children in private schools in these remote areas without the child actually receiving quality education they need (Srivastava, 2013 & forthcoming; Chudgar & Quin, 2012; Woodhead, Frost, & James, 2013; Harma, 2011).

Often rural schools lack basic infrastructural facilities, such as a separate toilet for girls leading to drop-outs from schools. Many schools do not even have proper classroom facilities. Teaching and learning in these classrooms in the tedious summer heat in India without even a ceiling fan and electricity could be very challenging. Hence, the government is recent years, put heavy emphasis on improving school infrastructure. However, researchers argue that a more holistic approach is necessary to address other social and structural inequalities which hold back rural students, such child marriage, hidden domestic labour within family, such help in looking after siblings and farm-labour etc. (Jha & Jhingran, 2002; Kelly & Bhaba, 2014). Researchers have also argued about the need to change pedagogic approach to make schooling more child-friendly. It has been argued that to materialize democratic and egalitarian educational ideals, it is first important to train teachers and make them aware of the deep social stratifications within Indian society, which excludes many rural children from the teaching-learning process (Sriprakash 2010; 2013).
Education for Indigenous and Tribal populations

7.3 In Australia, Aboriginal and Torres Strait Islander students made up 5.3% (n=200,563) of total school enrolments, with the largest amount of students in New South Wales, but the highest proportion of students relative to the state total in the Northern Territory (ABS, 2016). This means that several Aboriginal and Torres Strait Islander students experience the aforementioned difficulties of rurality in addition to other forms of educational disadvantage. While this is identifiable in disproportionately low levels of attainment and retention (Australian Indigenous HealthInfoNet, 2009), educational disadvantage for Indigenous populations carries dense historical connotations, given the forced removal of Aboriginal children from their families to be placed mission schools (Kidd, 1997), and the exclusion of Indigenous Australians from public education institutions until the mid-twentieth century (Sherington & Campbell, 2007, p. 17). Such phenomena attest to the complexity of the relationship between educational disadvantage and Indigeneity, and provides some insight in relation to the feelings of alienation or mistrust that Indigenous Australians might hold towards Australian schooling (Hutchins et al., 2007; Sandri, 2013).

Chris Sarra has become key voice in educational initiatives to improve the outcomes and experiences of Aboriginal and Torres Strait Islander students through his development of the ‘strong and smart philosophy’, which was critical to the establishment of the Stronger and Smarter Institute in 2005 (Rauland & Adams, 2015, p. 31). Initiatives brought forth by this Institute are underpinned by a respect for cultural identity, the development of leadership for Indigenous students, and a commitment to fostering high expectations (Rauland & Adams, 2015, p. 32).

Approaches to ameliorating educational disadvantage for Aboriginal and Torres Strait Islander students in policy align with a broader objective to ‘close the gap’ between Indigenous and non-Indigenous Australians in a variety of areas (COAG Reform Council, 2009). Associated initiatives tend to focus on ensuring pedagogy and curriculum is culturally responsive, and fostering greater engagement between schools and the parents of Indigenous students (Vass, 2012, p. 88). While a recent ‘report card’ from the Federal Government strenuously emphasised the attendance rates of Indigenous students (Commonwealth of Australia, 2015, p. 22), the assumption of a causal relationship between improved attendance and performance of standardised tests has been challenged (Ladwig & Luke, 2014).

On a broader level, some argue that because schools and teachers might regard Indigenous students, families, and communities as in some way ‘deficient’, educational discrepancies are attributed to students’ home and community environments, rather than processes within the school (e.g. Vass, 2012; Hutchins et al., 2007). According to Riddle and Fogarty (2015), responding Indigenous educational disadvantage requires cooperation between empowered Indigenous communities and other stakeholders, as well as improved funding for facilities staff resourcing.
The “adivasis” (original inhabitants of the land) or the tribal children in India are one of the most excluded groups of children from the benefits of good schooling. They are often referred to as STs or scheduled tribes and constitute about 8% of the Indian population. There are 573 Scheduled Tribes living in different parts of the country, having their own languages different from the one mostly spoken in the State where they live. There are more than 270 such languages in India (Sujatha, 2002). These 573 individual tribal groups with diverse sociocultural lives, are at various levels of social and economic development within India. There are very few good schools in these remote communities, except for the ones which were set up by early missionaries during colonial times. Children from these communities particularly struggle within the formal schooling system since they have to make difficult linguistic and cultural adjustments to succeed. The formal school system does not acknowledge and accommodate for linguistic and cultural diversity that these children bring to the school.

In postcolonial India often National identity formation subsumes other ethnic, linguistic and cultural differences. Often Adivasi people and their cultural backgrounds are portrayed in pejorative way in mainstream schools. This has negative impact on student inclusion and learning (Cultural Survival, n.d.). There isn't much mainstream concern about the achievement gap of “Adivasi” children as they are assumed to perform poorly in school because of their cultural background of living leisurely life in the midst of nature. The mainstream bourgeois hegemonic relationships dominate formal schooling space. Therefore, physical inclusion of these children leads to exclusion from learning. Scholars argue that physical inclusion in recent years within the mainstream schooling system; have further created social separation, inequality and impacted social mobility (Balagopalan 2003, Froerer 2011).

However, earlier studies on learning achievement of tribal children at primary classes had shown lower levels of achievement compared to non tribals (Govinda and Varghese 1993, Varghese 1994, Sujatha 1998, Prakash et al. 1998), although empirical evidence suggest that tribal children do possess the basic cognitive abilities and psychological dispositions for successful participation in schools. The low achievement levels among tribals are attributed to school-related variables as in the case of non-tribal students. (MHRD, n.d., p. 19).

Researchers also argue that because of migration of educated elites out of the rural areas, some educated tribals have received access to rural state jobs. However, these jobs are less secure than those occupied by traditional elites of indigenous Indian society. Moreover, they also observe that often educated tribals emulate the behavior of local traditional elites, thereby, creating new forms of inequality among educated and uneducated tribals in the region (Higham & Shah 2013). Though access to schooling has increased among tribal children along with access for total population, there is still a 14.03% gap in 2011 compared to 19.77 % gap in access to
education in 1961. Tribal children are some of the most excluded groups of children according to the first India Exclusion Report in 2014. The intersectionality of gender and disability adds to multiple layers of exclusion for some tribal children (MTA, 2013).

A study sponsored by UNESCO-IIEP and conducted by some researchers of NIEPA, New Delhi shows that, in some places small rural community schools in tribal areas with local teachers utilizing “alternative pedagogical strategies called ‘Joyful Learning’ and multi-graded materials have been adopted for teaching/learning in these schools” (Sujatha, 2000, p. 14) has been often driven by local demand. However, she identified several sustainability issues with regards to the working of these schools and the need to keep school administration decentralized and school community engaged with the teaching-learning process (Sujatha, 2000).

**Educational provision for immigrant and refugee groups**

7.3 Mace, Mulheron, Jones, and Cherian (2014) suggest that, given that refugee children have often experienced extreme difficulties such as poverty, deprivation, and exposure to traumatic events, schools can serve as a critical site for improving the health, social functioning, and academic performance of students with such experiences (p. 986). Similarly, Maher and Smith (2014) argue that early childhood educators play a pivotal role in the social experiences of refugee children amidst the proliferation of ‘us and them’ conceptions of asylum seekers in Australian society more broadly. While Matthews (2008) supports this, describing schools as "a stabilising feature in the unsettled lives of refugee students" (p. 32) with significant potential to support social participation and mobility, she argues that schools remain ill-equipped to provide the ESL education, which causes great difficulty for particular refugee groups. In their survey of over 5000 teachers and school executive staff in NSW public schools, Watkins, Lean, and Noble (2016) identified significant gaps in the training and professional learning of teachers in terms of ESL teaching. They suggest that this is particularly concerning given the multicultural character of Australia, and argue that it is incumbent upon governments to provide greater support for ESL programs, rather than leaving it primarily in the hands of individual schools (p. 62).

Although they are not signatories of the 1951 Refugee Convention and do not have a national refugee law, the human rights of refugees and asylum-seekers are protected by the constitution. They have access to health care and their children can go to school (Bose, 2012). More than 200,000 refugees and asylum-seekers of various origins live in India, of whom some 30,000 are registered with (UNHCR, 2001-2016). The UNHCR cooperates with Indian government and local NGOs who work with refugee and migrant children. India also believes that it has always been generous towards refugees:
However, critics argue that India is hesitant to accept the financial responsibility that ensues from undertaking the obligations of the 1951 Convention. The World Refugee Survey 2007, which rates refugee protection in countries on four categories of rights -- physical protection, freedom from illegal detention, freedom of movement and the right to earn a livelihood -- has rated India 'D' in three categories, signifying 'a level of treatment marginally above the rest' and 'C' with regard to freedom from illegal detention, signifying that refugees have reasonable access to the Indian judiciary (SAHRDC, as cited in Sengupta, 2008).

The refugees also report that they face challenges as refugees on a day-to-day basis, such as discrimination, finding accommodation and employment. Women, especially in New Delhi, don't feel safe, even in their homes. It is hard to find reliable data or research on education of refugees and asylum seekers within India. Therefore, it can be assumed that within the Indian context, refugee and internally displaced migrant children are some of the most excluded groups of children as their needs are not yet recognized even in public discourse. They are all seen as one homogenous group of homeless “street children” (Childline, n.d.), and mostly NGOs are involved in the difficult task of rescuing these children from being trafficked and helping them to get some education. It is a challenge to integrate them into the formal schooling system. A UNESCO (2001) report on street children in India rightly affirms the “push-out” factor by quoting Prof. Yash Pal, chairman of the National Advisory Committee on Primary Education in 1933 that:

Both the teacher and the child have lost the sense of joy in being involved in the educational process. Teaching and learning,...to the majority of our school-going children are made to view at school as boring, even unpleasant and bitter experience. They are daily socialized to look upon education as mainly a process of preparing for examinations; no other motivation seems to have any legitimacy. (UNESCO, 2001, p. 3)

Issues of diversity and justice

7.4 Watkins, Lean, and Noble (2016) describes multicultural education in Australia as involving efforts to respond to the needs of a culturally diverse community, and based on various rationales, including those of “cultural maintenance, social equity, community harmony, [and] cultural awareness” (p. 47). However, they identify that this is often a site of extreme controversy, with some claiming that multicultural education represents a ‘political correct’ ideological imposition, and others arguing that it does not go far enough (Watkins, Lean, & Noble, 2016, p. 47).

The preparation and perceptions of teachers prove a significant issue in relation to multicultural education. For instance, in their survey of teachers in Sydney, Forrest, Lean, and Dunn (2016) identified that classroom teachers generally express great
support for multicultural education and efforts to combat racism and discrimination. However, understandings of the implementation of multicultural policy vary significantly, and this is associated with the diversity of the population and SES of the areas in which schools are located (p. 634).

In a study of early childhood educators, Buchori and Dobinson (2015) explored the difficulties experienced by teachers while attempting to value the cultural backgrounds of students, identifying some occasions in which participating teachers viewed these backgrounds as burdensome, while holding a view that "effective multiculturalism was reliant upon appropriate regulation and assimilation into the dominant culture" (p. 73). Also focusing on Australian early childhood education, Miller and Petriwskyj (2013) suggest that the provision for cultural and linguistic diversity is often aligned with a dominant 'multicultural discourse, which they associate with "a complex history of progressive, yet often superficial reforms" (p. 252). As such, they express value for a policy shift to 'intercultural' education argued to involve a deeper engagement with diverse cultures and a celebration of difference (p. 253).

In terms of educational inequities in Australia, gender has been a longstanding focal point, for which policy approaches have varied over time. While feminist-informed policy and practice that sought to combat sexism and provide equal opportunities during the 1970s explicitly focused on the education of girls (McLeod, 1998), policy approaches to gender and education in the 1990s shifted to an emphasis on both girls and boys (e.g. MCEETYA, 1997). However, concerns for the education of boys have been challenged (e.g. Yates, 1997; Ailwood, 2003), and these debates have become further complicated by the question to which girls are being referred to in such policy. This question necessitates attention to the ways in which gender might interact with other factors, such socio-economic status, language background, or disability, to contribute to educational disadvantage (e.g. Collins, Kenway, & McLeod, 2000; Lingard, Mills, & Weaver-Hightower, 2012).

As mentioned above, there is need for promoting more multicultural education within India. Internal ethnic (linguistic) and religious diversity within India is often overlooked under the project of National cultural identity formation (Yadav, 1974). Since, National identity formation is dominated by mainstream cultural norms and ideology; it can lead to the exclusion of children from the periphery/margins of the Indian society, such as the tribal children. This is because their languages, cultures and heritage are not valued by the Indian mainstream and their unique contributions in enhancing independent India’s National motto of “unity in diversity” is not included as part of the curriculum or the pedagogic process in the mainstream schools (Gautam, 2003; Sujatha, 2000; Bagai & Nundy, 2009).

Debates around programs to tackle disadvantage

Over the past few decades, the Federal Government has committed to a number of initiatives designed to address educational disadvantage, often with a general focus on SES. For instance, the National Partnerships program,
which ran from 2009 to 2013, sought to improve educational attainment in literacy and numeracy for students in schools of low socio-economic status (Department of Education, 2016a), and the Higher Education Participation and Partnerships Programme (HEPPP) was intended to increase opportunities for participation in tertiary education for students from low-SES backgrounds (Department of Education, 2016b).

Some initiatives target more specific ‘equity groups’, as seen in initiatives associated with the aforementioned agenda to ‘close the gap’ between the educational outcomes of Indigenous and non-Indigenous students. Several practices in relation to Indigenous educational disadvantage reflect a principle of affirmative action, exemplified in attempts to increase the amount of Aboriginal and Torres Strait Islander teachers (MATSITI, 2015), and the procedures of respective State Departments of Education surrounding the provision of Indigenous support workers in schools (e.g. NSW Department of Education, n.d.; WA Department of Education, 2015). However, as Augoustinos, Tuffin, and Every (2005) demonstrate in their study of Australian undergraduate psychology students, affirmative action remains a contentious issue for many, as ‘commonplace’ discourses challenge such practices on the basis of notions of meritocracy and equal treatment (p. 327).

The Indian government has undertaken various formal steps to help uplift marginalized groups of children, particularly the rural tribal children. The National Programme of Sarva Shiksha Abhiyan (SSA), which aims to achieve Universal Elementary Education (UEE), has a special focus on education of the tribal children (MHRD, n.d.). The 1986 National Policy on Education (NPE) made some important declarations to improve tribal education:

- Priority will be accorded to opening primary schools in tribal areas.
- Need to develop curricula and devise instructional material in tribal language at the initial stages with arrangements for switchover to regional languages.
- ST youths will be encouraged to take up teaching in tribal areas.
- Ashram schools/residential schools will be established on a large scale in tribal areas.
- Incentive schemes will be formulated for the STs, keeping in view their special needs and lifestyle.

NPE, 1986 and Programme of Action (POA), 1992 recognized the heterogeneity and diversity of the tribal areas, besides underlining the importance of instruction through the mother tongue and the need for preparing teaching/learning material in the tribal languages. However, as stated above, despite these early policy declarations implementation has been a challenging issue within India. It is often hard to find teachers within the local community and not much progress has been done to train mainstream teachers, who are deployed to teach in these remote communities. There has been not much progress in adapting the curricular material to the local cultural context and utilization of child-friendly pedagogic approaches.
Though researchers have suggested long term planning and holistic community-based schools and community development for tribal areas, affirmative action has been limited to providing reservation quotas for tribal children to access schooling and employment within the mainstream framework. Recently, the Right to Education Act (2010) has further made 25% reservation mandatory for children from disadvantaged backgrounds in all government recognized private schools. The definition of disadvantage is purposely kept lose and it also includes tribal children, though in practice such provision is hardly found to be very useful so far without a more holistic approach towards inclusion, according to empirical evidence from researchers (Srivastava 2013 & forthcoming).
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Chapter 8

School leadership and development

Systems of educational leadership

8.1. In Australia, procedures for the recruitment of school principals vary between states and territories, although most processes involve assessment by a panel of appropriate stakeholders (e.g. QLD DET, 2016; VIC DET, 2015). Following trends in other nations such as Singapore and Norway, emphasis has been placed upon the ‘selection’ of principals, and the nurturing of identified talent early (VIC DEECD, 2012, pp. 20-21). Jensen, Hunter, Lambert, and Clark (2015) advocate for this, arguing that more strenuous selection mechanisms for entry into school leadership courses ought to replace the dominant practices of self-selection (p. 14).

While there are avenues for the formal preparation of principals, over 30% of Australian principals have received no school administration or principal training (Jensen, Hunter, Lambert, & Clark, 2015, p. 6). However, there has been increasing emphasis on the provision of preparation programs, particularly following the introduction of the National Standard for Principals in 2011 (AITSL, 2014a). While these Standards do not mandate a prerequisite qualification for principals, they outline the capacities and characteristics expected of principals at different stages of proficiency, which preparation programs are encouraged to reflect (Jensen et al., 2015, p. 8).

The National Partnership Agreement on Improving Teacher Quality (COAG, 2009), endorsed by all States, Territories, and the Commonwealth, is also focused on the improvement of school principals. Stated objectives in this agreement include the development of more effective training for principals, strategic placement of principals, and greater effort to retain and reward quality principals and school leaders (p. 7). To this end, the Agreement pledges $50 million to deliver “world leading professional development and support which will empower principals to manage better their schools” (COAG, 2009, p. 12). Aligned with this agenda, the MCEETYA’s four-year plan for 2009-2012 outlines a commitment to rewarding school leaders, with additional emphasis placed upon attracting high quality leaders to disadvantaged schools (MCEETYA, 2009, p. 16).

AITSL also attributes great importance to the recognition and ongoing development of school leaders, and making visible to potential leaders “structured, transparent pathways’ for career advancement is part of their key recommendations for the preparation of principals (AITSL, 2014c). This is identifiable in the Australian Professional Standard for Principals (see below), in which AITSL provides a taxonomy of behaviours and outcomes associated with different levels of proficiency. The purpose of this is to assist school leaders in self-evaluations, and in the evaluative practices of those supporting aspiring leaders (AITSL, 2014d, p. 5).
While AITSL do not provide direct guidance as to the means by which principals should be rewarded, different State and Territory Departments have different processes for this, as per the decree in the COAG agreement. These tend to be related to remuneration, such as in guaranteed salary increases (e.g. ACT DET, 2015) or the provision of performance pay (WA DE, n.d.).

In India there are no standard norms for recruiting school Principals or head teachers. There exists lot of interstate and sector-wise (government, non-government, private, missionary) variations. The appointment also depends on the total enrolment and the number of teachers. Small primary schools with less than four teachers are not likely to have the post of head teacher. Often, the senior most teacher is expected to play head teacher’s role. Also, the basic qualification for becoming a head teacher is the same as that of the teachers of particular level of school. Primary school head is required to possess 12 years of general education followed by two years of professional training, in secondary school the head teacher has to possess a university degree and Bachelor's degree in education (Govinda & Diwan, 2002).

However there exist wide variations in the qualification of head teachers across states and school managements. Head teachers of government schools at all levels are recruited in accordance with the recruitment rules of the state. Different states have different rules for mode of recruitment (direct or promotional basis) and different eligibility criteria in terms of qualification and professional experience. Generally the recruitment of heads is based either on promotional (seniority or merit based) basis or as direct recruitment. Some states also follow a combination of both i.e. promotion and direct recruitment in varying percentages.

All major policy documents post-independence in India have highlighted the importance of good leadership to improve teaching and learning in schools. Mudaliar’s Commission (Secondary Education Commission, 1952-53) in its report emphasized that in addition to the academic and professional qualification, the head teachers should have at least 10 years of administrative/teaching experience, qualities of leadership and administrative ability. Kothari commission (Government of India, 1966) also emphasized the need for selecting trained and meritorious teachers for position of head teachers. The Chattopadhyaya Committee Report (Government of India, 1983) had also pointed out that choice of headmasters of a school is of crucial importance. It also disapproved the policy of appointing head teachers solely on seniority basis, rather it explicated that merit should be the sole criteria for selecting the head teachers. Even in case a suitable person was not found, seniority shouldn't be allowed to influence the selection and a person from outside should be recruited without any hesitation (Basu, 2012). However, despite these suggestions by various commissions at the National level, there have been great discrepancies. There is no uniform recruitment policy for the school Principal/head-teacher, who is the backbone of the school.

According to a newly developed framework for school leadership development published by the National Center for School Leadership (NUEPA, 2014a) established
under the aegis of National University of Educational Planning and Administration (NUEPA), the prime purpose of school leaders should be to transform ordinary schools into schools of excellence through collaborative effort involving all stakeholders. The NCSL team at NUEPA is working on all aspects of school leadership development programme at the national level in collaboration with its international partners like the National College for Teaching and Leadership (NCTL), Nottingham United Kingdom supported by UKIERI (UK-India Education and Research Initiative, n.d.). According to the NCSL framework, the school leaders need to be trained for becoming transformative school leaders for the 21st Century.

(Source: NUEPA, 2014b, p. 2)

The objectives of National Programme Design and Curriculum Framework for School Leadership are:

- To develop curriculum, organize well designed, need-based programmes for current and prospective school leaders
- To create a repository of materials and resources for school leaders
- To develop learning materials for diverse school contexts and customize them for use in different modalities
- To enable school leaders to bring about a shift in their understanding of their current role as functional managers to proactive and innovative leaders
- To prepare a critical mass of experts to take leadership development forward in the respective States and UTs
- To build capacities of school heads in the areas of teaching learning, personal and professional development, innovations in school system processes, and partnerships
- To empower local leadership (SMCs, SDMCs, VECs, PTAs, MTAs) and system leadership to contribute to school quality
• Establish Leadership Academies, in consultation with State governments, and bring about synergy between NCSL and Leadership Academies
• Establish linkages between school leaders and grass root level (field) administrators working closely with schools at cluster, block and district levels (CRPs, BRPs, DEOs) as well as SMC and other community members
• Create Professional Learning Communities of school leaders, across the district, state and region to generate collective learning experience for effective implementation of leadership development in the country
• Collection, documentation and dissemination of best leadership practices
• Contribute to new knowledge in the area of school leadership development in the Indian context.

Expectations of Principals

8.2 While curriculum and professional standards have been developed and applied at a federal level, codes of conduct or ethics remain under the jurisdiction of States and Territories (Forster, 2012). AITSL has stated that they will develop a national code for teachers and principals (Teaching Australia\(^3\), 2008, p. 16), but this has not yet been released. In some cases, codes apply specifically to teachers, without explicit mention as to whether this includes principals (e.g. VIT, 2015; TRBSA, 2016), and in others, codes apply to all Departmental employees (e.g. NSW DEC, 2014a). Across jurisdictions, there is some inconsistencies in the function of these codes, as while some take on a more disciplinary character, others are more focused on the promotion of particular aspirations and values (Forster, 2012, p. 6).

Along with professional standards for teachers, AITSL has introduced a set of professional standards for principals. These are based upon “three leadership requirements that a principal draws upon within five areas of professional practice” (AITSL, 2014a), which are outlined in figure 1. These Standards and associated ‘Leadership Profiles’ seek to “create and promote a shared vision, clarity of understanding and a common language around effective and high-impact school leadership”, with objectives including the of raising student achievement, promoting equity and excellence, and fostering conditions conducive to quality teaching (AITSL, 2014d, p. 4).

Figure 1:

\(^3\) Teaching Australia is the former name of AITSL
The Standards were developed in consultation with a range of State Departments of Education, as well as Principals Australia (AITSL, 2014b). The Principals Australia Institute PAI is currently developing a Certification Program for principals in line with the Professional Standard, though this would be delivered on a voluntary basis (PAI, 2015a). In addition, the PAI develops and provides programs and resources for school leaders (PAI, 2015b), and is involved in programs to support and retain classroom teachers (PAI, 2015c). State-based organisations offer similar resources and host events to support the development of principals, and often publish position papers and policy submissions (e.g. NSW Primary Principals’ Association, 2014; Tasmanian Principals Association, 2015). In some cases, organisations are divided between primary and secondary principals, and there are often different bodies representing different school sectors.

8.4. The National Programme Design and Curriculum Framework for School Leadership has highlighted key areas for school transformation and professional development of school leaders. These six key areas are shown in the diagram below.
These six key areas were framed taking into consideration the main objectives of the National School Leadership and Development Program and the wide diversity (both geographical and ethnic) of the schooling contexts within India. These broad domains were chosen to leave space for individual school leaders to innovate, to build partnerships, to build leading teams and transform the teaching-learning process with a positive self-image “to become reflective practitioners guided by the values of equality and non-discrimination” (p. 14). Each of these broad domains have specific focus areas to provide school leaders with a road-map for professional self-development, staff development and school transformation. For example, the key area on “developing self” involves reflective practice on “understanding self”, “self in relation to others”, “self in the context of the school” and “developing professional self”. The domain on transforming teaching-learning process involves reflection on “school and purpose of education”, “understanding child-centered pedagogy”, “creating conducive teaching learning conditions”, “enhancing the effectiveness of classroom processes”, “developing teacher as a professional”, and “enriching teaching-learning process: looking beyond the classroom”.

Professional support for principals

8.3 The notion of ‘school autonomy’ and ‘principal autonomy’ has become a powerful policy discourse in Australia, and several initiatives taken up over the past decade place great emphasis on school leadership and the responsibilities of school executive. In 2012, the Council of Australian Governments (COAG) agreed to a national program titled Empowering Local Schools, which was focused on expanding the decision-making capacities of local schools and principals.
The rationale for this shift was that leaders of schools could cater their priorities and activities to local need, and better respond to issues particular to their students and communities (NSW DEC, 2012, p. 3).

While all States and Territories have ratified this agenda, different jurisdictions implemented slightly different policies and procedures, with most emphasising the notion of principal autonomy. For instance, the NSW Department introduced the ‘Local Schools, Local Decisions’ reforms, through which principals were given far more responsibility on matters such as school maintenance, the procurement of services for the school, and partnerships into which the school could enter (NSW DEC, 2014b). The Victorian Department have gone further, arguing that schools ought to have the capacity to hire someone outside the teaching profession to serve as principal, as the prohibition of this “limits potential for a stronger executive management approach to leadership in schools” (VIC DEECD, 2012, p. 21).

A number of challenges have been made in relation to the shifts to accountability and managerialism policy shifts have brought forth for principals. Waning interest in the prospect of becoming a principal is often cited as impetus for reform to support the preparation and increasing autonomy of principals (Watterston, 2015, p. 5). However, Lock and Lummis (2014) complicate this in their findings that strenuous ‘compliance’ requirements were a critical factor in deterring aspirants from pursuing principalship, as some felt this could potentially compromise the independence of a school, and come at a personal cost. Relatedly, in alignment with other critiques of the turn to ‘competencies’ in understanding teaching work (e.g. Connell, 2009; Lingard, 2010), White (2010) argues that school principals ought to ‘speak over’ the reforms that promulgate this view. She suggests that principals are well placed to support teachers in enacting a different understanding of ‘professionalism’, inclusive of values such as trust, agency, and judgement.

Gurr and Drysdale (2012) suggest that the changing conditions and pressures with which school principals must now contend has significant implications on the preparation and development of school leaders. This is demonstrable in the shifting practices and discourses on school leadership in Australia at present, in particular, the growing influence of the notion of ‘instructional leadership’ in the work of principals (Gurr, Drysdale, & Mulford, 2007; Dinham, 2013). Instructional leadership involves the three dimensions of:

- “defining the school’s mission,
- managing the instructional programme and
- promoting a positive school learning climate” (Hallinger, as cited in Dinham, 2013, p. 231).

Dinham (2013) argues that a ‘clinical approach’ to teacher education is critical to improving teacher quality, but that the realisation of this development depends upon the skills of educational leaders in instructional leadership.

8.6. As mentioned earlier there has been little professional development effort so far for school leaders within India and little effort so far to monitor and support school
leaders. Recently, the National Centre for School leadership (NCSL) was inaugurated by National University of Education Planning and Administration (NUEPA) particularly with this aim and objective to professionally prepare school leaders, monitor their work and support them.

A private entrepreneurial initiative has been also established in recent times to train Indian school leaders. It is called “India School Leadership Institute” (ISLI, 2015), and targets the professional development of school Principals in private schools. ISLI is supported by a transnational team of executive members and corporate partners along with support from Delhi-based think-tank, Central Square Foundation (India Education Diary, 2014).

Newly established Azim Premji University in Bangalore has also begun a school leadership training program (Azim Premji Foundation, 2011). However, all these school leadership professional development programmes are at a debutant stage and not much information is available about monitoring, evaluation of progress and support mechanisms.

Recently, TESS-India (Teacher Education through School-based Support in India) brought together UK academics and teacher educators across India to produce Open Educational Resources (OER) to support teacher educators, head-teachers, teachers and others through Teacher Development Units (TDU) and Leadership Development Units (LDU) the latter targeted at school leaders (elementary and secondary) (Wise, Addae-Kyeremeh, Anand, & Wheeler, 2014). Multiple case studies were conducted to test theory of transformative learning and theory of change that LDUs alter knowledge, beliefs and practices. The outcome of this support initiative and the multiple case studies findings are not yet publicly available.

There has been couple of partnership initiatives with Australia for school leadership professional development and support. Australia-India school leaders exchange program was launched in June 2011 by the Asia Education Foundation (n.d.). This two week exchange program was designed to send Australian school leaders to India and to bring Indian school leaders to Australia to learn about each other’s education systems and culture. The program was sponsored by Australia-India Council.

The Central Board of Secondary Education (CBSE) has recently partnered with Australian Council for Educational Research (ACER) for strategic leadership and school improvement (ACER, 2015). CBSE selected the Australian Council for Educational Research (ACER), through ACER India, to train school leaders in a three-day, non-residential strategic leadership program. The program draws on international evidence, including ACER’s research on effective practices in school leadership, and the National School Improvement Tool (ACER, 2016), which was developed in Australia following evidence from international research on best practices of highly effective school leaders. However, a recent paper has highlighted many challenges of implementing internationally bench-marked best practices for
school leadership within the India and need to contextualize reform because of its diversity of educational contexts (Singh & Nelligsery, 2013).

**School leadership in private and public school**

8.4 The move to principal autonomy has had disproportionate effects between Government and non-Government schools. This is in part due to the fact that independent schools generally had more developed administrative structures prior (Educational Transformations, 2007, p. 7). Additionally, an evaluation of the Empowering Local Schools National Partnership Agreement shows how it was already conventional within the Independent sector for the school executive to adjudicate on issues pertaining to school budget and staff management, whereas head office had more input in such processes in Government and Catholic schools (Simons, 2013).

The implications of this for Government schools are exemplified in the controversy surrounding NSW's Local Schools, Local Decisions reforms. In terms of funding, these reforms meant that schools would have one budget, guided by a school plan (NSW DE, n.d.a, n.p.). According to the NSW Department, within this model, funding is provided on the basis of the needs of schools, its provision will be more transparent, and schools will manage more than 70% of its allocation, which is an increase from less than 10% (NSW Department of Education, n.d.b, n.p.). However, these reforms were met with strong opposition from the NSW Teachers’ Federation, as they argued they served to obfuscate funding cuts, and shift responsibility from the Department onto schools (NSWTF, 2012).

Sector-related tensions surrounding school autonomy also emerge in the Federal Department of Education’s recent $70 million commitment to the Independent Public Schools initiative, with the objective of assisting public schools "to help schools become more autonomous and independent if they so choose“ (DET, 2015, n.p.). This program follows existing developments in Western Australia, in which participating principals become directly accountable to the Director General of the Department of Education (WA DE, 2016). The State School Teachers’ Unions of WA argues, like the NSWTF, that this initiative was an attempt to shift responsibility from Government to communities. However, they also warn that this could contribute to the establishment of a two tiered schooling system, potentially with the collateral damage of job losses and school closures (SSTUWA, 2014, p. 1).

There isn’t reliable research based knowledge available on differences in autonomy and power in private and public schools. Moreover, there are so many different kinds of schools in India, rather than the broad private and public category, it can be assumed that each has very different management structure.
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Chapter 9

Skills training at the secondary school level

Changing nature of work and labour relations

9.1. The provision of skills training in schools in Australia occurs in the context of a number of critical shifts in work and labour relations. One of the most significant factors is the extent of youth unemployment. While this has long been a problem in Australia, it became more acute following the 2009 Global Financial Crisis (GFC), as the consequent decline in the availability of full-time work and general increase in unemployment disproportionately affected young people (Anlezark & NCVER, 2011). According to the ABS, the unemployment rate for young people sits at 12.9%, which is double that of the total population, and the duration of unemployment for young people has been increasing (as cited in TAI, 2016). This has hit Tasmania the hardest, as the youth unemployment rate has almost doubled since the GFC (Carvalho, 2015, p. 38).

In 2012, the gradual decline in the rate of the unemployment benefit had rendered it one of the lowest in the industrialised world (Denniss & Baker, 2012, p. 19), and this trend has continued. Currently, the New Start allowance for job seekers is less than 40% of the minimum wage, and both business leaders and welfare groups have criticised this, arguing that it exacerbates the difficulty of finding work and risks entrenching poverty (Morton, 2016).

Alongside this, young people in particular have been targeted by federal reforms that, while claiming to assist in moving young people into work, have been highly controversial. The 2014 Federal Budget under the Abbott Government proposed that jobseekers under the age of 30 would need to participate in job search and employment activities for six months prior to receiving unemployment benefits (Commonwealth of Australia, 2014). This budget also proposed that recipients would be required to participate in the 'Work for the Dole' scheme after six months (Commonwealth of Australia, 2014), a program has been subject to criticism on the basis of both its effectiveness (Aston, 2016), and fairness (Patty, 2016), and for which the Turnbull Government have proposed reform in the 2016 Federal Budget (Commonwealth of Australia, 2016).

According to Agbola and Lambert (2010), given the dwindling availability of low-skill jobs for those with minimal education, "VET is seen as providing the appropriate level of training for the socially disadvantaged in the country" (p. 344). Teese identifies this in relation to the expansion of technical schools in the post-war years, which "was much more aggressive in the poorer northern and western suburbs of the city, compared with the more affluent suburbs" (Teese, as cited in Polesel & Clarke, 2011, p. 526). Agbola and Lambert suggest that current arrangements for the provision and for VET, which involves targeted funding for disadvantaged groups, align with this expectation. As Clarke and Polesel (2013)
identify, VET is far more prevalent in Government schooling than in the Independent sector, and, within the Government sector, it is more commonly undertaken by students from lower SES backgrounds (p. 262).

However, Clarke and Polesel (2013) assert that VET qualifications are socially undervalued, treated in an instrumentalist fashion by policy makers, and have limited employment outcomes. As such, they express concern that “VET in Schools programmes are working as a filtering mechanism, sorting the poorest and lowest achieving students into programmes that invariably delay their entrance to a volatile labour market” (p. 262). In relation to a case study of a NSW school offering dual accreditation pathways, one of which was VET-based, Yates (2006) suggests that there may be a failure to account for the “embodied and demographic differences of actual students or to actual workplace hierarchies, prejudices and problems” (p. 291).

Another significant factor affecting skills training in secondary schools is concern that skills shortages in a number of industries, such as manufacturing, nursing, and childcare, might threaten Australia’s prosperity (Rudd, Swan, Smith, & Wong, 2007). This was demonstrated in the 2007 Federal election, in which the victor, the Labor party led by Kevin Rudd, pledged to invest heavily in skills training (Rudd, Swan, Smith, & Wong, 2007). Successive Governments, both Labor (e.g. Evans, 2011) and Liberal (Ey, 2014), have retained this focus on skills shortages, albeit with different emphases and policy responses.

Brown (2006) challenges what he argues is a pervasive assumption that vocational education should be industry-led, pointing out how, previously, trade unions had been at the forefront of this (p. 492). He attributes this to a shift in understandings of the term ‘industry’, wherein it became synonymous 'business', which “sidelined union involvement in vocational education reform” (p. 503). Garrick (2011) suggests that the dominance of market-based agenda remains in reform for vocational education in schools. She argues that the establishment of Trade Training Centres (TTC) through the Rudd Government’s SAF policy proposal, a development that will be elaborated upon, was undertaken so as to satisfy the interests of industry (p. 411). The Business Council of Australia (BCA) has expressed enthusiasm over investment in VET more generally on a number of occasions (e.g. BCA, 2004; BCA, 2014; Masters, 2007). While acknowledging the ‘social objectives’ of the VET system, the BCA (2004) argues that it ought not to “lose sight of its primary function, namely, supporting skills formation” (p. 92).

In recent years with globalization and ICT, there is increased awareness among parents and employers that there needs to be changes in curriculum because of the changing nature of 21st Century workplace. Within India, there has been also talk about the need for skills development at the policy level. The scale of this challenge is enormous. King (2012) writes:

> India is no stranger to large numbers. But its current 11th Plan (2007–2012) has developed a scheme that appears to challenge even the wish lists of
politicians. It has targeted increasing the proportion of formally and informally skilled workers in its total workforce from a mere 2% now to 50% by 2022, thus creating a 500 million strong resource pool. In this, it hopes to profit from a 'demographic dividend', gaining from the fact that its labour force is much younger than that in China and other competitor countries. It aims to supply the world's future skill needs for some 50 million workers, apart from satisfying its own.

Kundu (2013) states that, "about 70 million more people have to be imparted formal skills in the next five years." (p. 6) In that same paper, Kundu (2013) states that, the biggest problem for skills training for employment is that India has a very high school drop-out rate of approximately 57% between class 1 to 10. Only 10% of the total workforce receives some kind of skills training with only 2% of them receiving it from formal education. The rest 8% receives informal training in their profession as part of small family business, such as street food vendor etc. Unlike Australia, they do not require any kind of formal vocational education and training (VET) to be in their profession. Taking into consideration the difficult working conditions and poverty, some scholars have also suggested promoting this kind of "non-formal apprenticeship" within the Indian context (Kundu, 2013; Pilz, Uma, & Venkatram, 2015).

**Expectation of vocational preparation**

9.2 In Australia, arguments surrounding an orientation towards vocationalism on part of schools invoke, among others, economic and social rationales. Such debates have been complicated by the introduction of policy mandating an increase of the school-leaving age.

Yates (2006) associates the emphasis placed upon vocational education with conceptions of the 'new worker', who would "need to be flexible; to be oriented to lifelong learning... and to be enterprising" (p. 281). As aforementioned, Garrick (2011) asserts that the Rudd's SAF policy proposal is "driven by the needs of providers rather than students" (p. 412). However, she suggests that the document is influenced by neoliberal ideology, which assumes that "individuals are best served in an economy when individual entrepreneurial skills are used to grow and protect individual property, the free market and free trade" (p. 412). These conceptions persist in the current framework for vocational learning and VET in schools, which at once emphasises the demands of a global, technologically advanced world, and a need for young people to become "skilled and flexible workers who can navigate the world of work... identify and solve problems; [and] create and innovate" (Education Council, 2014, p. 2).

As previously mentioned, however, many argue for the importance of vocational education for improving outcomes for disadvantaged students, and assisting in the transition from school to work is considered a key component of this. The UNSW Social Policy Research Centre (Skattebol, Hill, Griffiths, & Wong, 2015) identified "key principles for good practice that support successful transitions for
disadvantaged young people (aged 15-24 years) into secure and meaningful employment or ‘decent work’” (p. 1). A number of these relate to the practices of schools, which include but are not limited to: the explicit coverage and integration of skills and careers information into school curriculum; the collaboration between schools, employment services, and employers; follow up procedures to support students after the provision of information or participation in placements (p. 3). They argue that, for improvement in this area, changes for schools must include a commitment to universal supports for students regardless of location or background, and the provision of professional development for teachers and youth service providers on careers (p. 4).

A critical development concurrent to the policy focus on VET has been legislative changes to the school leaving age. The Federal Government has encouraged the retention of students until the end of school and worked with State and Territory Governments to undertake initiatives designed to sustain the access young people have to work and education pathways (DET, 2016a). While in QLD, WA, TAS, and SA, students were required students to remain in formal education or a combination of education and employment until the age of 17, in 2010, NSW, ACT, and the NT have also introduced similar restrictions (ACARA, 2013). As students who may previously have left secondary school earlier are no longer permitted to do so without having confirmed work or education activities, schools have had greater impetus to provide options for students not seeking to attain a qualification for university entry. As will be explained, VET qualifications for high school seniors is a key example of this.

In India, there is not much research evidence to show how the orientations of schools are shifting towards expectations of employers and vocationalism. There is real knowledge gap in this area. In his paper Kundu (2013) proposed a model for Australian VET sector for off-shore delivery of VET education in India in the high skill sectors. However, King (2012) analyzed sociocultural issues associated with VET action in India and some of the politics behind the recent policy focus and discourse on skills development. King (2012) highlights the dichotomy of double-digit growth of the Indian economy, despite having a tiny population who are formally trained. Moreover, he further highlights the caste-class bias and general population attitude towards VET in India as the relative increase of wages for employees with general secondary education is higher than those with some kind of technical and vocational education. He states, “the mass training system remains ‘learning to labour’ on the job, in casualised, highly exploitative conditions, even the small formal training system of the industrial training institutes (ITIs) is perceived by the middle classes as primarily suitable for lower caste youth” (King, 2012, p. 666).

**Skills development in schools**

9.3 The Federal Government’s *Preparing Students for Work* framework distinguishes vocational learning from VET. The former is aligned with the objective of assisting secondary students to identify and explore work options, and build upon career development skills. It is inclusive of careers education, and is
to be integrated into the broader curriculum (DET, n.d.a.). VET, on the other hand, “provides students with the opportunity to acquire workplace skills and knowledge through nationally recognised qualifications from industry-developed training packages or accredited courses while still at school” (DET, n.d.b.).

In secondary school, students can also acquire a VET qualification through an accredited course, which provides an alternative pathway for those not seeking to pursue university education. As Scott (2014) outlines, States and Territories approach the provision of VET differently, as variance emerges in aspects such as stated objectives, the onset of provision, and the supports given to participating students and their parents (p. 6). However, while different jurisdictions may provide students with different certificates (Aussie Educator, 2016), the vocational qualification attained is nationally recognised.

Additionally, students may also complete a school-based apprenticeship or traineeship, which would enable them to “combine a VET qualification with an employment contract while also completing their senior secondary certificate of education” (Education Council, 2014, p. 14). Students locate school-based apprenticeships based on their interests by searching the Group Training Directory to search for employment organisations and industry groups that provide training in collaboration with schools. In this directory, through direct contact with the industry organisation or a third party service, students may locate school-based apprenticeships in areas such as construction, hospitality, and retail (Group Training Australia, n.d.). Students may also contact an employer directly, who, upon agreeing to work with the student, can contact the local Apprenticeship Network on the student’s behalf. From there, the student, employer, and provider may liaise to ascertain the student’s suitability and supports required (Australian Apprenticeships, 2015).

There isn’t reliable research-based knowledge available about what kinds of skills are developed in schools. School-based vocational education in India is currently covered by a centrally sponsored scheme since 1988 and was aimed at providing an alternative to the pursuit of higher academic education. The National Institute of Open schooling offers a flexible vocation-oriented curriculum for students. After completing basic literacy till class 7, students from class 8 can take the pathway for vocational education through NIOS, the school is affiliated to register students under the NIOS. The NIOS has also begun Open Basic Education program through distance learning mode following a multi-entry model based on age and learning level of children within the formal school system.
According to 2016-2017 prospectus for Vocational Education, currently NIOS is offering two virtual courses utilizing online learning management system (LMS): Certificate in ICT application; and Diploma in Rural Technology (NIOS, 2016).

Apart from these two online courses, 10 vocational courses are offered in Typewriting (Hindi, Urdu and English), Jute Production, Carpentry, solar energy technician, bio gas technician, laundry services, bakery & confectionary and welding technology at the secondary school level. Total 20 courses are available at the senior secondary level, which includes typewriting (Hindi, Urdu and English), Stenography (Hindi, Urdu and English), Secretarial practice, Plant protection, Water management for crop production, Oyster mushroom production, furniture and cabinet making, electroplating, House Keeping, Catering Management, Food Processing, Play Center Management, Hotel Front Office Management, Poultry Farming, Soil and Fertilizer management, Preservation of Fruits and Vegetables.

Apparently this might appear like a good system. But, the language in which these courses are offered actually excludes the masses of students, who could benefit from these courses as I have found during my own case study research at a school which offer dual pathway from class 8 for vocational education through NIOS for students who find more academically oriented local State board curriculum challenging (Mukherjee, 2015).

Programs to develop vocational skills

In 2008, the Federal Government introduced the Trade Training Centres in Schools Program, for which the objectives reflected views on VET from both social and industrial perspectives. The program brought forth increased collaboration between industry and schools, so as to alleviate skills
shortages in Australia, and recent changes to its funding arrangements seek to “ensure that industry engagement and collaboration is at the forefront of these projects, along with appropriate student support arrangements” (DET, 2016b). However, the program also aims to further efforts to achieve higher rates of Year 12 attainment, halve the Year 12 attainment gap between Indigenous and non-Indigenous students, and support the transitions of young people from school to work or further education (Scott, 2014, p. 3).

This program is based upon a partnership between the Commonwealth and State and Territory Governments and state-based organisations representing non-Government school sectors, in which the Commonwealth provides the funding for facilities, equipment, and some of the administrative costs (Scott, 2014, p. 1). However, this does not extend to recurrent costs, such as teachers’ salaries and consumables, which are to be met by the school or state authority for the school (Scott, 2014, p. 1). Currently, there are 511 projects funded through this program (DET, 2016b), and according to an independent review, while some markers of success are difficult to evaluate, “around two-thirds of TTCs operational in 2012 reported that the TTCs had a positive impact on enrolments, retentions, completions, post-school training and employment pathways” (Scott, 2014, p. 4).

In introducing the program, the Federal Labor originally sought to establish a Centre in all schools, but this was not viable due to different needs and capacities of schools (Scott, 2014, p. 2). The program was also intended to allow students to attain a Certificate III qualifications, however this was changed to Certificate I and II qualifications due to the out-of-class time that would be demanded of students (Scott, 2014, p. 3). According to the Australian Qualifications Framework, Certificates I graduates have the foundational knowledge and skills for initial work, and Certificate II graduates have basic knowledge and skills that are applicable for work in a defined context (Australian Qualifications Framework Council, 2013, p. 12).

In India, the first National Skills development framework was drafted in 2009 under the former UPA government. The current NDA government released new policy framework in 2015. The aim of this policy is to link skills development to improved employability and productivity. The mission statement of the framework seeks “to rapidly scale up skill development efforts in India, by creating an end-to-end, outcome focused implementation framework, which aligns demands of the employers for a well-trained skilled workforce with aspirations of Indian citizens for sustainable livelihood” (p. 4). Rather than any specific skill sets, the framework lays out an open proposition to develop employer/industry-driven programs for developing skilled workforce as well as instil values of life-long learning in them. The framework proposed building a number of Multi-skill Institutes (MSI) in the public-private partnership (PPP) model with industry partners to ensure training programs are relevant and are of high standards.
References


Chapter 10

Conclusions and Proposals for Collaboration

10.1 There are considerable similarities between Australia and India in relation to the national procedures for curriculum development and the national objectives of school curriculum. The notion of a National Curriculum has been a recurrent policy issue in Australia, with a number of major initiatives taken following the election of the Labor Party to Federal Office in 2007 (Savage & O'Connor, 2015, pp. 616-617). Upon agreement from the Federal and all State and Territory Governments, the organisation responsible for the curriculum, ACARA, was established through an act of federal parliament (ACARA, 2008), enabling it to embark on a multi-phase process of consultation with various experts and stakeholders (Savage & O'Connor, 2015, p. 617). Several ‘versions’ of the Curriculum have been disseminated, the most recent of which is Version 8.1, and Australian states and territories are transitioning into its implementation at varying rates (ACARA, 2010-2016).

While schools in modern India follow either the curriculum determined by the three central boards (CBSC, ICSE, and NIOS) or the local State board curriculum, NCERT (National Council for Educational Research and Training), established in 1961, advises the various central and State boards about school curriculum. An initial objective of NCERT was to make the school curriculum, especially in history and social studies, reflect the constitutional values and ideals of a modern secular nation-state with equal rights and duties for all, irrespective of ethnic and religious differences. Similar objectives can be found in the Melbourne Declaration (MCEETYA, 2008), which decrees that “Australian schooling promotes equity and excellence” (p. 7), and enables students to become “successful learners, confident and creative individuals, [and] active and informed citizens” (p. 7).

Given their common interests, NCERT and ACARA should explore establishing stronger lines of communication in order to inform each other of new developments and consider possibilities of closer cooperation.

10.2 In both India and Australia, curriculum has been subjected to extensive and intense debates. For example, similar debates around ideological bias in school curriculum have emerged. In India, these criticisms come from both politically right and left orientations, reflected in the repeated revision of textbooks, based on the ideology of the central government in power. These debates have become intensely political, and sometimes personal, and therefore unproductive.

Such tensions also exist in the Australian context, particularly in relation to the History curriculum. For example, there has been an enduring controversy, manifesting in a series of debates colloquially referred to as the ‘History Wars’ (MacIntyre & Clark, 2003), in which the notion of a ‘black armband’ view of history...
was popularised. This view denotes a version of Australia’s past that overemphasises the injuries inflicted on Indigenous populations at the expense of acknowledging conceptions of ‘progress’ afforded by colonial processes (Parkes, 2007). While arguments of the dominance of Left ideology in Australian curriculum continue to proliferate (e.g. Donnelly & Wiltshire, 2014), so too do claims that the current Coalition Government’s intervention into the National Curriculum smacks of conservative political bias (e.g. Adoniou, Louden, Zyngier, & Riddle, 2014; Taylor, 2014).

10.3 Other curriculum debates in both Australia and India centre on the competing economic and social priorities of the curriculum. Such tensions are enduring in Australia, seen in the shifting political agendas informing views of curriculum over the past few decades, and the emphasis placed upon economic objectives in the 1980s (Yates, 2011, pp. 27-29). Savage and O’Connor (2015) suggest that curriculum reforms that respond to concern for global economic performance may mobilise a new understanding of ‘equity’ as commensurate with an agenda of “ensuring young people are economically competitive” (p. 610).

In India, similar politically charged tensions abound, particularly in relation to the concept of the Minimum Levels of Learning (MLLs), brought forth by the National Curriculum Framework of 2000, a development which reflects the basic concern that irrespective of caste, creed, location or sex, all children must be given access to education of a comparable standard, it aligns with an objective of enhancing equity and reducing existing disparities. As it is likely that these tensions will continue to exist in both Australia and India, there may be value in looking to the different responses taken in each context. This is exemplified in the ultimately unsuccessful ‘New Basics’ initiative, an approach to curriculum that subscribed to notions of education as developing human capital for Australia’s economic future, while still accommodating critical perspectives on social justice (Lingard & McGregor, 2013, p. 7). However, such efforts must attend to the vast economic, social, and cultural differences shaping these tensions in each context.

Australian and Indian educators might nonetheless be encouraged to examine how such politically charged debates can be more usefully directed towards a more productive curriculum conversation.

10.4 India, pedagogy is still dominated by the traditions of rote learning and memorisation, and this has long been subject to criticism in public debates on the quality of teaching and learning. This is exacerbated by teachers’ lack of autonomy and disempowerment, which causes difficulty for teachers to implement child-centered pedagogy, as it has been noted with empirical evidence from research (Smail, 2014; Mukhopadhyay & Sriprakash 2011).

Over the past few decades there have been several initiatives to address this. For instance, since 1978, with collaboration of UNICEF specification of Minimum Levels of Learning (MLLs) has been made by NCERT along with a scheme learner evaluation for language, math and environmental studies. This development has
been accompanied by recommendations to lighten the load of curriculum and leaving room for the teacher to relate textbook information and objective reality into a meaningful process of understanding and application.

Interestingly, in Australia, a ‘return to basics’ has re-emerged as a significant discourse in Australian debates on educational quality in policy and media, particularly since the Coalition was elected into federal office in 2013. The then Federal Minister for Education, Christopher Pyne, was a harsh critic of what ‘child-centred’, activity based learning, advocating for renewed emphasis on the ‘basics’ of literacy (Hurst, 2013; Maiden, 2013). In the Review of the Australian Curriculum (Donnelly & Wiltshire, 2014) requested by Pyne, it was recommended that greater emphasis be placed on phonics in early years (p. 169).

10.5 While there are shared concerns about pedagogy, historical differences between Australia and India influence them significantly. Practices such as rote learning have not always been a part of teaching and learning in India. Prior to the colonial period, there were traditional small village schools, such as Hindu Brahminical Gurukuls, Islamic Makhtabs and Madrasas, and Buddhist Viharas, which were run at the homes of teachers, or inside temples and mosques and Buddhist monasteries (Diwan 2015, p. 189). In these schools, while the teaching and learning process was directed by the learned and experienced teachers “Gurus”, the focus of education was on student learning, their needs and aptitudes. However, during the colonial period, the Indian education system experienced extreme financial strain, resulting in small village schools being held in shabby dwellings with ill qualified teachers and absence of primary facilities (Diwan 2015). Moreover, with the massification of the education system, the focus gradually shifted from student learning to test-taking and rote-memorizing, rather than analysis and problem-solving.

In the Australian context, Sandri (2013) argues that “[t]he most damaging tools of colonisation were the assimilation policies and actions that removed Aboriginal children from their homes, their families and their traditional cultural teachers” (p. 29). By this, Sandri refers to traditional teaching of family beliefs that occurred across generations in explicit form, as well as through actions (p. 60), rather than in formal school settings. Like the Adivasis children of India, Australian Aboriginal and Torres Strait Islander students experience significant educational disadvantage (Gonski et al., 2011, p. 115), and attempts to address this align with a broader policy objective to ‘close the gap’ between Indigenous and non-Indigenous Australians in a variety of areas (COAG Reform Council, 2009).

There are increased debates in India on educational equity issues because of increased achievement gap between students graduating from State boards of education and two central boards of education within India. While some State board curriculum focuses more on issues of social justice and equity by keeping the curriculum responsive to local linguistic and cultural context, their students lose out in the employment sector. Hence there is increased demand from parents on school administration to out-of State board curriculum in favour of one of the two
Central board curriculums, where the medium of instruction is also English and the curriculum is more globally oriented.

Similar debates are emerging also within the Australian context with the new Australian curriculum framework. Though the language issues is not as pronounced within the Australian context, since the medium instruction has been historically in English and some States in Australia are only beginning to teach indigenous languages lately. Reform efforts in Australian education tend to reflect principles of high expectation and respect for cultural identity (Rauland & Adams, 2015, p. 32), and often focus on ensuring pedagogy and curriculum is culturally-responsive, and fostering greater engagement between schools and the parents of Indigenous students (Vass, 2012, p. 88). Despite such efforts, some argue that there is a tendency for schools and teachers to regard Indigenous students, families, and communities as ‘deficient’, causing educational discrepancies, which are attributed to students’ home and community environments, rather than processes within the school (e.g. Vass, 2012; Hutchins et al., 2007).

Educational scholars India have argued about the distinct Indian traditions of child-centered pedagogy, which can be traced to pre and post-independence era in the educational writings and work of intellectual thinkers, such as Vivekananda, Aurobindo, Gandhi and Tagore, among many others (Aggarwal, 1999; Guha, 2013; Kumar, 1993 & 2005; Pridmore, 2009; Smail, 2014). However, there is serious lack of awareness among the general Indian population and even the teachers about the history of teaching and learning within India. A lack of familiarity with India’s own tradition of teacher directed child-centered pedagogy may cause teachers and educational researchers may reject concepts such as inclusive education and child-centric pedagogy to facilitate the learning of all children as foreign to the Indian context. As such, there is significant value in attempting to foster meaningful engagement with histories of other approaches to education that precede the colonial period. In the Australian context, similar engagement by teachers with the history of pedagogies may also be valuable in challenging aforementioned deficit conceptions by enabling teachers to better contextualise the educational inequalities experienced by marginalized and indigenous students.

Debates around pedagogy in both Australia and India have deep historical and cultural roots. Attempts might be made to better understand these roots in order to develop new culturally-responsive drivers of pedagogic reform.

There are significant differences in conceptions of quality in teaching and learning between India and Australia, and how quality ought to be evaluated. In Australia, over the past two decades, there has been substantial debate and activity in this respect, particularly in the context of the establishment of National Professional Standards for Teachers (AITSL, 2014), and the staggering amount of government reviews into ITE (Louden, 2008). A number of stakeholders contribute to these public debates, including professional organisations such as unions and schools associations (e.g. Fitzgerald, 2013; Association of Independent
Schools of SA, 2010), and private sector organisations, such as ‘think tanks’ (e.g. Jensen, 2010; Stanley & Allen, 2014). While their contributions may not always be reflected in such policy developments, teacher educators and educational researchers play a highly significant role in associated debates, as they offer a critical voice on the normative basis of such initiatives, as well as their potentially unintended consequences (e.g. Connell, 2009; Mockler, 2012).

By contrast, while there have been a number of developments for pedagogic reform in India, led by government, NGOs, and civil organisations, Academic Professional associations and teachers’ unions are not as active within India. The Comparative Education Society of India has been dormant since its inception in the 1960s and it has been revived only recently 5 years ago, hosting annual National conferences. There is no other established professional association of researchers and practitioners- i.e. teachers, school administrators and civil society organizations at the National or Regional level to generate evidence-based academic debates to promote pedagogic reforms to improve the quality of teaching and learning.

In recent years, with increased government push for accountability and productivity with tests, such as NAPLAN, teaching to the test is seen as a major concern within the Australian context. However, within the Indian context, teaching to the test and rote-memorization for instrumental goals of education is viewed as a historic problem since the introduction of mass schooling and mass examination system in the mid-nineteenth century (Kumar 1985, Seth 2007, Tagore 1919). The Indian system of schooling remains dominated by student testing and examinations.

In both India and Australia, student assessment has become a major issue of policy debate. This debate has centred not only the technical issues of how to best measure student performance and achievement but also the vary purposes of testing. Testing has variously served the purposes of ensuring accountability, providing information for parents to make market-oriented judgements, enabling universities and employers to make decisions, but also to improve pedagogy. Student assessment has become a major site of educational research, with numerous initiatives to develop more effective tools that are not only technically effective but also culturally appropriate. Collaboration in this area can be productive for both Australia and India. In India, the Australian Council for Educational Research (ACER) has been working with Indian schools, systems and researchers to develop new tools for the Indian conditions. It is not clear however how this work is contributing to deliberations about culturally relevant testing in Australia.

Potential exists for the Indian and Australian systems of education to collaborate over the development of culturally relevant and appropriate practices of student assessment and accountability.

In India, the mass education system with high stakes examinations evolved in the mid-nineteenth century geared towards reproducing bureaucratic administrative staff from among the local elites during British colonial
period (Kumar 1985). However, there was little funding available from colonial government to support an educational system that adequately prepared the students, as it sought to promote existing small school and expanded education for the masses through private individual enterprise (missionaries, colonialists and nationalists), with limited grants-in-aid based on performance (Seth, 2007). Yet, unlike Australia, a well-funded common public schooling system never developed within the Indian context even post-independence from British rule. As a result, much of Indian education system continues to be supported by private investment either through tuition fees or philanthropy.

Issues of funding and governance are therefore differently articulated in India and Australia. Yet there are increasing debates in both countries against the centralization of educational governance and management. The Indian systems of educational governance remains highly bureaucratized. Attempts to devolve power to the schools have been resisted. In Australia however, there has been a major push towards devolving decision-making powers to the schools and local communities, dating back to the mid-1980s. However, the idea of devolution promoted in Australia has been framed within the principles of ‘new public management’, which involves, among other ideas, the centre holding on to power of coordination and control, as well as mechanisms involving in what has been called ‘steering from a distance’. The issue of whether and the extent to which genuine democracy can be extended to schools and their communities remain unresolved.

10.10 The ideas of school reform appear to be converging between India and Australia on issues of teaching and learning in general. Policymakers in both countries are increasingly concerned about necessary skills shortage for the 21st Century knowledge economy and the need to upskill or re-skill their population. The Indian government has sought to institutionalize this by investing in the new National Skills Development Corporation while keeping the existing schools, colleges and universities underfunded. While the perception of looking at skills development as separate from general education is believed to be rather problematic around the world, there appears to be a general convergence in the policy-circles in both countries about the need for human capital development to meet the needs of the 21st Century global economy.

A major obstacle to reform within the Indian context towards this goal is the lack of necessary public investment in education. This represents a potential barrier for collaboration even in vocational education for skills development as suggested by Kundu (2012). Because of lack of public investment, education is highly cost sensitive as it has been highlighted in some recent reports by organizations such as Gray Matters Capital (Campbell, Mehr, & Mayer, 2013) on technology and education reform within the Indian context.

Yet the new technologies provide a major opportunity for collaboration. In recent years, the Asia Education Foundation (AEF) has demonstrated through its BRIDGE program the possibilities of schools in Asia and Australia developing close partnerships, not only for intercultural communication and understanding but also
for genuine collaboration over projects of pedagogic reform. AEF is still experimenting with India-Australia schools links, but even at this early stage, the potential for innovation appears immense, enabling teachers to explore educational ideas and for the students to work on project of mutual interests. Synchronous platforms of communication, such as Skype, Zoom and Adobe Connect are now readily available and can greatly contribute to global learning.

**The possibilities of educational collaboration between Indian and Australia schools through the use of new technologies are immense, and should be further supported, developed and evaluated.**

10.11 The tradition of educational research, and especially research that is school-based, is underdeveloped in India. In their teacher education programs, at the so-called ‘teacher training degree colleges’, students to not provided the tools for either critically ‘reading’ educational research or designing school-based action research projects. Teachers are therefore ill-equipped to examine systematically issues that arise in their classrooms. At the same time, very little educational research is conducted in Indian universities. As a result, a system as large as India produces very few publications and research-based reports on emerging educational issues. Many of the articles published in Indian journals of education are based on anecdotes and are mostly polemical. Australia can greatly assist in helping Indian higher education to develop research capacity so that the discussions are driven not only by experience but also analysis.

**Australian and Indian educational authorities should consider ways on working together to help the Indian systems of education develop their academic and institutional research capacity to address more systematically issues of both policy and practice.**

10.12 By all accounts, the state of teacher education in India is at best uneven, perhaps bordering on poor. It is highly test focused pedagogy with minimal practice teaching experience. There is little training in problem-based learning and research methodologies. Despite several commissions and curriculum framework for teacher education, little advancement has been made to improve the teacher education sector, as it has been highlighted by Chudgar (2015). Unlike Australia, there is real paucity of data on actual problems of teaching and learning in Indian schools. However, according to 2013 figures the country has a little over 1,000 government teacher training institutes and close to 15,000 private teacher training institutes (MHRD, 2013). Together each year these institutes enrol close to 1,300,000 aspiring teachers. This is a very large system of teacher education.

If vocational education and skills development is a priority of the Indian government, then teacher education should also be regarded as a major area of acute priority. With the magnitude of the problems facing teacher education in India, Australia’s capacity to assist is negligible. However, Australia can help in the training of teacher educators, to help them develop more productive research-oriented programs of teacher training.
It might consider, for example, a collaboration that involves Australian and Indian Faculties of Education on a review of teacher education in India, leading to recommendations and developing a graduate program that can be jointly developed and offered to the lecturers at teacher training colleges. Such a program could be offered online with opportunities for conferences, school-based research, and perhaps even international internship.

The key themes for such a 'train the trainer' program could include: Research skills training; Problem-based/project-based experiential learning; Issues of educating for diversity, as required by RTE Act; Principles of cultural responsive pedagogy with a focus on life-long learning, critical thinking, problem solving and creativity for employability; and Principles of Clinical Teaching and Learning, among others. Funding for such a program might partly come from tuition, but partly also from international development and philanthropic agencies.

**The need to improve the quality of teacher education in India is urgent, and can be addressed through a ‘teach the teacher educators’ program, developed and taught collaboratively between an Australian university and a selected group of Indian universities and educational agencies**

There have been many past attempts at collaboration (see for example, Rizvi & Gorur 2011) between Australia and India, such as the Australia-India school leader’s exchange program facilitated by the Asia Education foundation and collaboration between CBSE and ACER). However, challenges and outcomes of these collaborations are not known widely. What is the case however is that emerging conditions in both Australia and Indian are highly supportive of international collaboration, as indicated in Australia’s draft *National Strategy for International Education*. Due to the lack of funding and clear guidelines, however, there has been a mushrooming sub-standard domestic institutions and international partnerships. Overlooked often have been the issues of quality assurance, equity and postcolonial political sensitivities. Australia and India much to learn from each other’s experience of school reform, but any collaboration between them must be based on the principles, of reciprocity and mutual respect.
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