



AIYD
Australia India
Youth Dialogue

Education in the Australia-India Relationship

*Taskforce report prepared by:
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The Australia India Youth Dialogue*

**AIYD Education Taskforce Report:
Expanding horizons of Education Transformation between Australia and India**

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About the Authors

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From 2009-2012, he worked with Dr A. P. J. Abdul Kalam in promoting various assignments like What Can I Give, Energy Independence for the nation, nuclear and space missions and PURA (Providing Urban Amenities in Rural Areas). He gives lectures on community action, leadership and development at IIMA and Indian Institute of Management, Indore and has contributed to various journals and forums, including TEDx and as a speaker at the AIYD, on issues of development.

Srijan has worked in the corporate world as a consultant with the Boston Consulting Group where he worked in close association with the United Nations World Food Program on improving governance and transparency in India's Public Distribution System in Naxal affected areas of Orissa. He is the CEO of three ventures, Craftroots, The Three Billion Group and Nukkad Paltan, which deal in "Dream mentoring" for underprivileged children.

He has co-authored a bestseller book with Dr. APJ Abdul Kalam titled *Target 3 Billion* based on sustainable development of rural areas of the world. The idea of PURA, which evolved in the book, has now been adopted as a major national program by the Government of India in association with many Indian corporates in a Private-Public-Partnership Model. He has also co-authored, "Excellence in Management", published by UNDP, which includes a study of best practices in management of Public Sector Organisations in the developing world, specifically the Delhi Metro Rail Corporation. His most recent work was in the area of microfinance and how it can create entrepreneurship at the field level. This was published as his fourth book titled, "Assessing Impacts of Bandhan's Micro - credit and Related Development Interventions" by IIMA and unveiled by Nobel Laureate, Professor Mohammad Yunus.



The Australia India Youth Dialogue (AIYD) provides a sustainable platform for the youth of Australia and India to come together and foster an enduring partnership between our two great countries.

The AIYD explores new opportunities in the Australia-India relationship by bringing together the expertise and knowledge of both countries coupled with the goals and aspirations of future leaders of both nations. By facilitating discussions about economic, political, cultural, social and environmental issues facing both Australia and India, the AIYD will empower young leaders in both countries to collaborate with each other, share ideas and innovations with a view to building sustainable long-term relationships with each other.¹

¹ The authors would like to thank AIYD 2012 delegate, Ms. Anika Singh; AIYD 2013 delegate, Ms. Vandana Goyal; and Professor Biju Varkkey from Indian Institute of Management, Ahmedabad for their valuable contributions to this report.

Executive Summary

India and Australia are two vibrant democracies which have strong faith in the value of education towards bringing development, peace and prosperity to their respective countries. While the Indian system faces the typical challenges of a densely populated, resource restricted but high potential demography, the Australian system is characterised by a matured yet evolutionary system which has achieved strong credentials in the field of education. India's biggest weakness remains in its primary and vocational education system both of which are essential tools for shaping its demographic dividend into growth multiples. India also is faced with the fresh challenges of maintaining a strong standard in and updating its higher education system which is lagging behind in terms of technological progress. Australia's education system provides an ideal opportunity for India to not only nurture its brightest talent, but also create sustainable development for the educational system as a whole through targeted teacher training and syllabus upgrades. Key challenges remain unsolved, like the gaps of purchasing power which separates the common man of the two nations and the differences in the social needs of the two societies.

This report investigates the various forms of education, primary, secondary, higher, vocational and research, from the view point of both nations and identifies the key opportunities for sharing, synergising and mutually benefiting.

Introduction

Education is a fundamental requirement for the process of development of any nation. It creates the necessary skills for its industries and services and translates human capital into meaningful socio-economical assets. Over the ages, education, along with healthcare, has emerged as one of the most prominent human system which has imbibed and evolved along an iterative manner. In fact, there is a strong correlation between the years on average spent by the people in schools and the wealth created in the nation as shown in Figure 1.

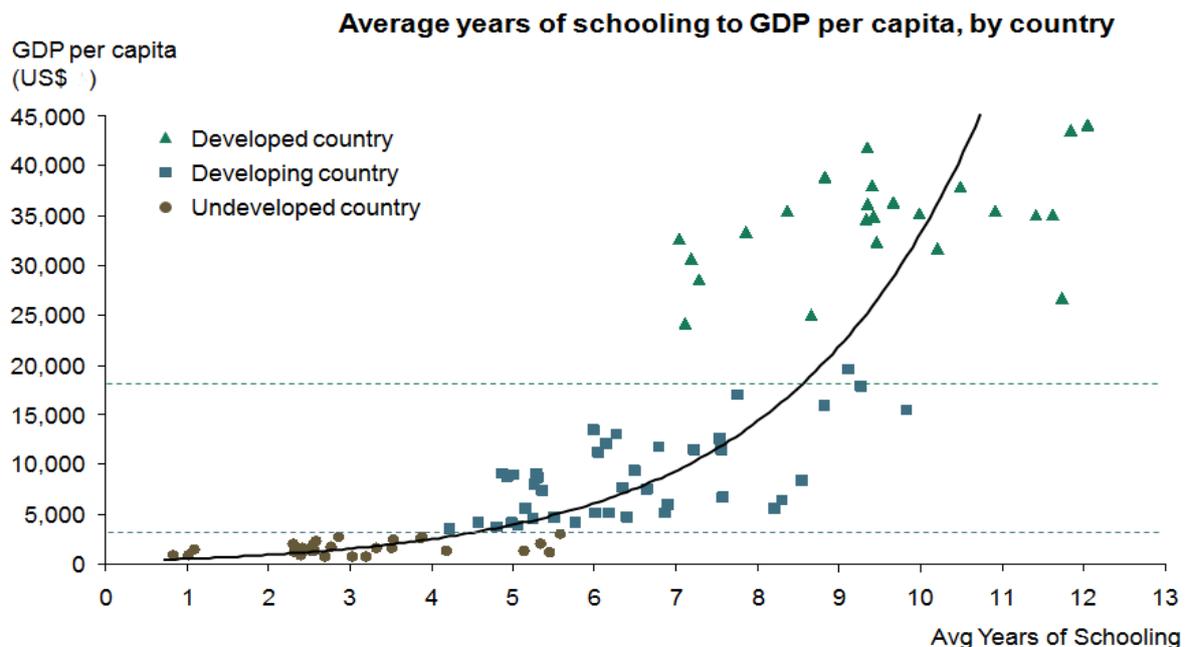


Figure 1: Relationship between average schooling years and GDP per capita

Education systems in India and Australia began at completely opposite ends of history. Australia directly inherited a European modern system of education right from its advent, while the Indian education system has evolved over a meandering process through history of about 4000 years. Evidently, it has gone through phases of liberalisation and conservation. India's challenges of diversity and catering to it in its education relatively high compared to most other countries.

India was amongst the first to set up public libraries and universities of multiple disciplines, which were a preferred place of learning for many foreign scholars. The primary and secondary education pattern, rooted in ancient Vedas, dating back approximately 3000 years, was based on the Gurukul pattern, where students would live with their teachers and be provided with multi-dimensional learning including moral

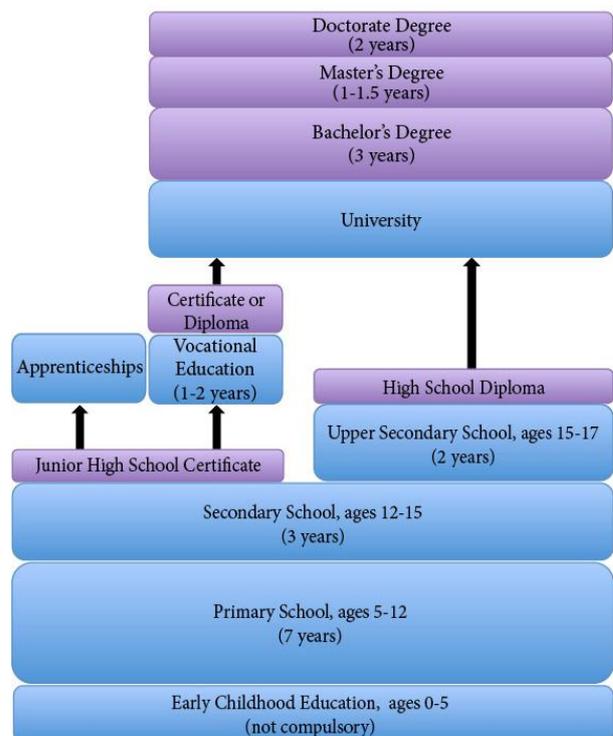


Figure 2: Australian Education System Summary

education and values. Research was promoted by the state, religion was usually liberal to science and art and difference of opinion was encouraged as public discourses. Things began to change around 10th CE, with the first Muslim emperors coming in and when there was a shift in the ruler's religion and with that a change in the majority of subjects which were taught.

The Australian education system evolved through a far more focussed and competency-centred approach. The system focuses on strong linkages between the schooling, vocational and higher education systems and has well defined ways to move between them. The system has been well recognised internationally, with the Education Index, published by the United Nation's HDI, listing Australia at 0.993,² in equal first position with Finland and Denmark.

This report will analyse the two education systems across levels: Early Education, Higher Education, Skill Development and Vocational Education and Research and Innovation Climate. It will also find synergies and salient features along each of these dimensions and indicate ways of possible cross-learning and collaboration that could enrich both systems.

Early Education

For the purpose of this report, Primary education (0-5), Secondary and Higher Secondary Education (6-12) will be covered in this section.

Primary Education has been a thrust area for the education sector of India, originating from the fact that the literacy of independent India was as low as 18%.³ Plagued by problems such as child labor, child malnutrition and girl child discrimination, the Indian government has tried to tackle such societal problems through primary and secondary education. Today, there are 5.8 million elementary school teachers and 2.1 million secondary schools teachers in India, a large fraction of which fall under government services.⁴ However, numbers tell only part of the story. There is a significant challenge of the quality of teachers across the board. Vandana Goyal, the CEO of The Akanksha Foundation, a leading NGO in improving the quality of education in India and an AIYD delegate in 2013 reflects on the challenges of the teaching staff. She says, “[w]hile teachers, especially the government school teachers, actually start out with decent and comparable salaries, there are hardly any growth opportunities or mid-career learning options. Teaching as a job is very seniority driven, and one can see large numbers of Head Masters being in their position for years, purely on the basis of them being senior to their peers. There are hardly any performance measurement and management methods which make teaching a stagnant job. Then there is a challenge of teacher training. Most B.Ed. (Bachelor in Education) programs are teaching old system of education which discourages interaction and promotes traditional, rote-based methods rather than experimental ways of teaching.”

Typically, government schools in India have a poor reputation in terms of quality – as one of the first investments parents tend to make in their child is to sending them from government owned to privately run schools. Today, nearly 25% of total enrolment is in private schools, whose cost is significantly higher than that of government schools. However, the perceived

² Human Development Report, UNDP available at <http://hdr.undp.org/en/countries/profiles/GNO.html>.

³ Devika Chhibber, ‘Gaining Independence from Illiteracy’.

⁴ “30% Of India’s Populace Deserves Better” (26 March 2012), available at www.indiaspend.com/sectors/30-of-indias-populace-deserves-better

inequity between the two is so high that parents, who can afford private school fees, would show little trust in the Public Education System.

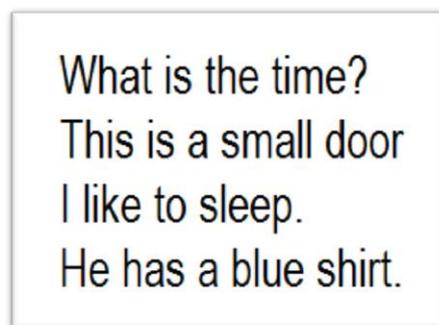
In 2009, the Government of India introduced the Right to Free and Compulsory Education (RTE) in a bid to ensure highest possible enrolment and even attempted to bridge the inequities in education by asking all private schools to admit 25% of students from economically weaker sections of the local community, a move which was and is still being, resisted by private institutions. In addition, the Government runs the largest school meal program in the world, in the form of the Mid Day Meal Scheme,⁵ which today provides free meals to over 120 million school children⁶ in over 1.2 million schools across urban and rural India. Various states have come up with schemes to boost girl child enrolment rates, linking various cash and in-kind rewards with their enrolment and progress. India's largest state, Uttar Pradesh – with a population of 200 million – has gone further to declare free laptops for school students in the state, a declaration being hailed for technological flavour and criticised for expected revenue expense by all corners.

But RTE and other schools reforms have come at the price of flexibility, which is discouraging innovative methodology in teaching. Highlighting this, Vandana says, *“RTE has come at a cost on flexibility. Because it mandates that all teaching staff should have a concerned certification, it has discouraged a new pool of talent to enter into the formal teaching profession through alternate methods of certification”*

The trouble with the Indian model of education is that it is stuck with vestigial issues, a delivery failure of mammoth scale, which requires urgent fixing.

Syllabus reforms, infrastructure, teacher training and specialised education to identify early talent are the need of the hour which the government is realising at a snail pace. The lack of quality education has been highlighted time and again as in the ASER survey tools (Figure 3).

Figure 3: These sentences were given to school students to read as part of the Annual Status of Education Report (Rural) (ASER survey),2012. Close to 77.5% standard five rural Indian school students failed to be able to read these sentences, which are of standard two level difficulty.



More specifically, three issues are seriously hampering the primary and secondary education system in India:

1. **Content:** Poor syllabus and its delivery methods.
2. **Teachers:** Low capability and willingness of teachers, especially those on government rolls.
3. **Environment:** Lack of availability of basic infrastructure which could help foster creative learning for a child. This also includes the inclination and attitude of parents.

⁵ For further information visit the Mid Day Meal Scheme official website, available at <http://mdm.nic.in/>.

⁶ 'Indian schoolchildren who ate poisoned lunches buried on school playing field', ABC News, July 19 2013, <http://www.abc.net.au/news/2013-07-19/poisoned-indian-schoolkids-buried-in-mass-grave-on-playig-field/4830028>

Australia's early education system has a fundamental advantage of dealing with a much smaller scale and being endowed by multiple times the revenue per enrolment. The net spending on education in Australia is about 4.5% of GDP compared to India's 3.1%.⁷ The investments in education have paid off well for Australia. For instance, India is ranked 69th in PISA ranking on reading, math and science abilities compared to Australia's rank of 9th.⁸ Out of the total school going students in 2010, approximately 66% attend government schools and 34% attended Catholic and Independent Schools – a figure which has fallen from 69% for government schools in 2000.⁹

Australia has long developed a system of compulsory education, with free government schooling. Lessons from this system are important for the Indian context where the government is grappling with the implementation of RTE.

In terms of teachers, Australian Universities are running a well-established system of training teachers in different subject areas at the school level, with the federal government spending about \$64,000 per teacher for the four year long program. However, in the recent years there has been a sign of imbalance, with a shortfall of maths and science teachers, while some trained teachers have difficulty finding work and find themselves staring at unemployment. One Australian source states that "... about 90 per cent of teachers graduating university in NSW and Queensland fail to find a job, while about 40,000 teachers in NSW and 16,000 teachers in Queensland are on departmental waiting lists for a permanent job."¹⁰

Action Items Summary:

Agenda	Action
Teachers and Syllabus	Australia's high ranking on study quality parameters is an area of interest for India. A concentrated effort towards enriching teacher training is an important input for the universities of India towards their Bachelors and Masters of Education programs. Exchange of teaching tools, methodology, sharing of teacher training resources including faculties would be a valuable way of improving the overall quality of the Indian education system. It would also be valuable to understand the Australian pattern of subject specific teachers at early levels and assess its replicability in the Indian scenario.
Infrastructure	India is grappling the challenge of how to adequately implement its Right to Free and Compulsory Education Act, which came into force less than half a decade ago. Australia's long experience in the successful implementation of a similar model of free education is a useful case study which can be emulated by Indian policy makers in ensuring an equitable roll out of this scheme in India.
Vocational	The Australian system has been good at integrating vocational education into its secondary education program, an opportunity which India is exploring. The VET of Australia offers an opportunity for India to learn about how a separate organisational body to manage vocational education can be adopted and how Indian could blend vocational education at different levels.
Cross Cultural Learning	Both India and Australia could integrate more about each other's country and

⁷ Compiled from data available from World Bank.

⁸ Key findings of PISA available at <http://www.acer.edu.au/ozpisa/key-findings/>.

⁹ Data from Australian Bureau of Statistics available at www.abs.gov.au/ausstats/abs@.nsf/lookup/4221.0Main+Features42010?OpenDocument

¹⁰ 'Millions wasted training teachers', *The Australian*, March 25, 2013, <http://www.theaustralian.com.au/national-affairs/education/millions-wasted-training-teachers/story-fn59nlz9-1226605045315>.

Higher Education

India realised early on the importance of institutionalised higher education. Taxila (now modern-day Pakistan), was an early Buddhist centre of learning. It was the oldest center for higher learning, dating back to 5th to 6th century BCE, almost 100 years before Plato started the Platonic Academy in Greece. The trend continued with even bigger centers like Nalanda (founded in 5th century CE) which lasted till about 1197 CE before being destroyed by Turk invaders. Following the era of Hindu kings, came the era of Muslim rulers leading up to the Mughal era, a period in which higher education institutions found little patronage of the royalty. When the British came to power, the progress of higher education institutions within India did not fit their schemes – where the stress was to send the best from India to the Oxforas and Cambridges to be groomed in British ways. In 1947, when India gained independence there were only 20 universities in the country,¹¹ most originating from social movements, religious beliefs or a handful of benevolent rulers, with almost 200,000 students were enrolled in them.

The scenario transformed over the first six decades of since independence, especially in the past 15 years. Today, India has 556 universities and approximately 26,000 colleges, making it the largest higher education system in the world in terms of the total number of institutions.¹² However, in terms of enrolment numbers, India is ranked third, behind USA and China. Out of the total number of colleges, 3,393 are engineering colleges¹³ with a combined capacity of about 1.5 million students. About one third of these colleges are in South India, where approximately one third of India's population lives. India has 42 central universities, 275 state universities, 130 deemed universities and the remaining institutions are private universities. These are controlled by the Central body, called the University Grant Commission (UGC). All institutions imparting Engineering, Architecture, MBA, Pharmacy and a few other streams are to be approved by the All India Council for Technical Education (AICTE). Similarly, the Medical Council of India (MCI) approves the medical courses and institutions. In addition, autonomous higher education institutes exist in India, including the prestigious Indian Institutes of Technology (IITs), Indian Institutes of Management (IIMs), All India Institute of Medical Sciences (AIIMS), amongst others. Interestingly, most of these autonomous institutes enjoy the highest national and international respect in the professional community and are highly sought after by students. For instance, for about 300 seats in the prestigious IIM Ahmedabad, there are about 200,000 applicants. Their unique selling point is independence in terms of deciding their syllabus.

In 2011, there were close to 150 million youth in the age group of 18 to 23 years, a huge potential market for higher education. Unfortunately, India's higher education system remains rote learning based and is poor on practice leading to graduates who are not industry ready. Experts comment that *"... nearly 85% of all graduates are non-employable as they come out of college, and even for a professional course like engineering this number is at a*

¹¹ Deepti Gupta & Navneet Gupta (2012), 'Higher Education in India: Structure, Statistics and Challenges', *Journal of Education and Practice*, vol. 3, no. 2.

¹² Ibid.

¹³ Geetha Rao, 'Engineering tops as most favoured discipline', *Times of India*, May 28 2012, <http://timesofindia.indiatimes.com/tech/jobs/Engineering-tops-as-most-favoured-discipline/articleshow/13601864.cms>.

*disturbing 75%.*¹⁴ Part of the problem also originates from the fact that the exposure level of the students and faculty to industry is minimal. With the exception of a few IITs and IIMs along with a few innovative institutions, there is rarely any real interface between what is being taught and what is being sought in the market. Most of the mushrooming private sector institutions are employing faculty whose highest degree is the same as the one they are teaching, and most laboratories are overburdened and undermanned. In such a scenario, many industries which continue to recruit from these institutions are opting for initiation programs, which often run for up to 6 months and focus on students unlearning what was taught in college and then retraining them in accordance with specific industry requirements. This trend has led to the setting up of multiple Corporate Universities who are solely engaged in making the available low-cost intellectual pool into employee asset. This employability gap is a costly burden on the higher education sector and is also delaying the entry of prospective students into the job market.

What is the basis of such a problem? Professor Biju Varkkey, a renowned author and senior Professor of Human Resource at the Indian Institute of Management, Ahmedabad reflects, *“I think it is a multidimensional problem: (a) Formal learning and application of learning was isolated from each other. This led to situation of degree, rather than mastering life skills. (b) Also the method of rote learning, which focussed on replication rather than application. It killed the capability to apply and innovate. Efficient teachers and teaching institutes have deteriorated and remained still, while the world was moving ahead. Our priorities remained undefined for long and by the time we realised, it was too late. The user system (industry) traditionally did not also focus on empowering the educational systems, instead set up corporate universities to bridge the gap. In a country where getting a job was more important than learning, teaching institutes were happy to allow corporate universities to take the lead - rather than improve themselves.”* He continues, *“Of course, societal treatment of education as an industry rather than a public good also contributed to the situation.”*¹⁵ Indeed the problem is not only institutional, but also cultural.

Australia’s higher education system comprises university and non-university institutions which award Australian Qualifications Framework (AQF) level 5 to 10 qualifications. Australia has 40 universities, of which 37 are public and three are private. The higher education space employs over 107,000 people and has revenues of \$19.9 billion.

Universities are established or recognised under state and territory or Commonwealth legislation, which is similar to the Indian system of State and Central Universities. There are five categories of university:¹⁶

- Australian university: offers a range of undergraduate and postgraduate courses;
- Australian university college: offers a required set of undergraduate and postgraduate courses and intends to meet ‘Australian university’ criteria in a stipulated time, usually five years;
- Australian university of specialisation: offers undergraduate and postgraduate courses in a limited specialisations;

¹⁴ Divya Nair, '85 percent graduates in India not employable', Rediff.com, August 29 2011, <http://www.rediff.com/getahead/slide-show/slide-show-1-career-85-percent-of-graduates-in-india-not-employable/20110829.htm>

¹⁵ Interview with Professor Varkkey.

¹⁶ Country Education Profile, Released by the Australia Government.

- Overseas university: recognised as a university in its parent nation and meets ‘Australian university’ criteria; and
- Overseas university of specialisation: recognised as a university in its parent nation and meets ‘Australian university of specialisation’ criteria.

In addition to these universities, Australia has about 160 other higher education institutions registered by state and territory authorities or TEQSA (Tertiary Education Quality and Standards Agency), an authority established in 2011 and which “*regulates and assures the quality of Australia’s large, diverse and complex higher education sector.*”¹⁷ TEQSA assesses all higher education institution under a set framework covering Provider Standards, Qualification Standards, Teaching and Learning Standards, Information Standards and Research Standards. The Provider Standards and Qualifications Standards are collectively the Threshold Standards. All higher education providers have to meet the set criteria to remain in the domain.

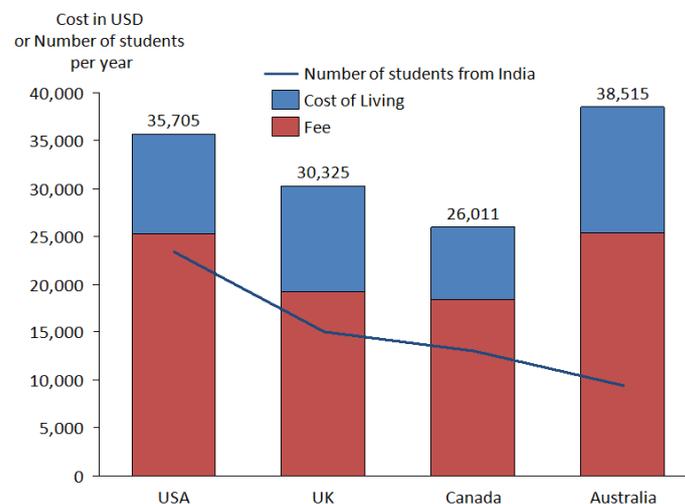


Figure 4: Number of students going for foreign education from India (2012) and the average fee and cost of living in different foreign destinations

Source: *The Economic Times Report*

Can Australia and India create alliances towards bridging the “employability gap” which ails the higher education system in India? Australia is the fourth most favoured destination amongst Indian students with about 9,400 students going to study various courses in Australia in 2012. However, Australia is also regarded as one of the most expensive foreign education destinations, almost 50% higher in cost than Canada (third most favoured) and even higher than the United States which traditionally has a high reputation amongst Indian students for its technological and research courses. Hence, besides the obvious need for scholarships and grants, one also needs to explore more avenues for collaboration.

¹⁷ TEQSA Website, www.teqsa.gov.au/.

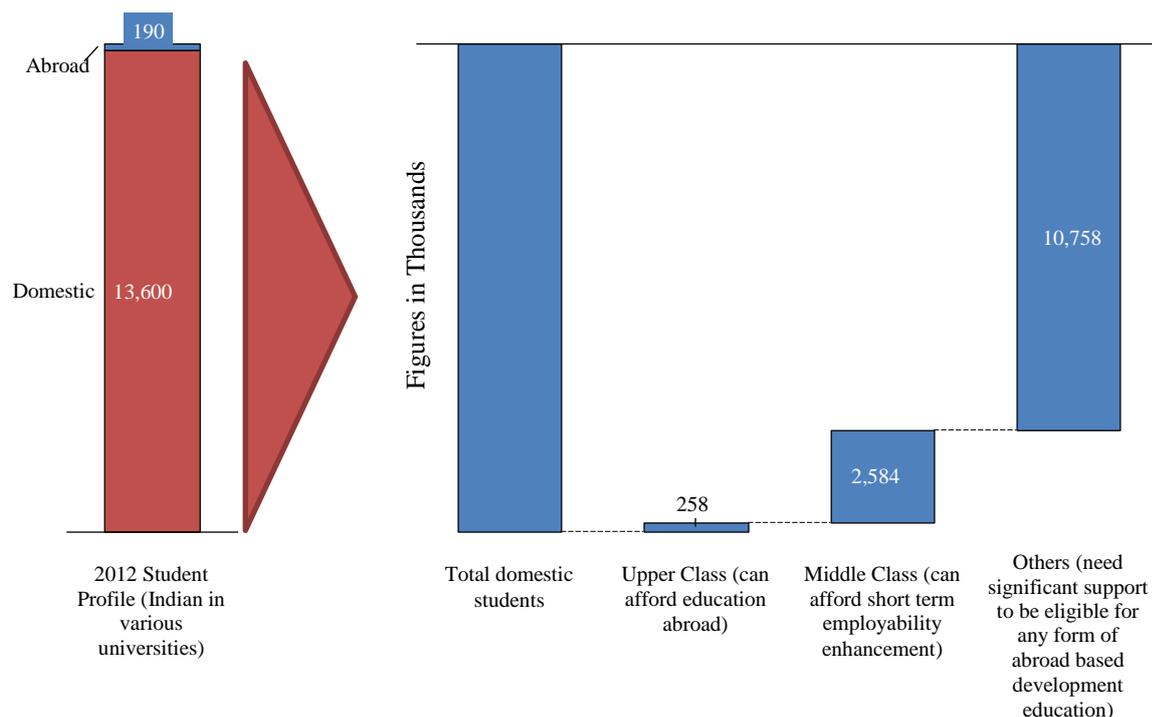


Figure 5: Student's Economic Profile in Higher Education Sector (India)

There is an opportunity for collaboration in technology and management education streams, where job readiness is more critical. Such short term courses with targeted content would be financially viable for the middle class segment in India as well, who may find conventional 3 to 4 years abroad education beyond their means. The middle class comprises roughly 2.6 million students, almost 25 times the numbers of students going abroad from India. Already, there are various exchange programs between Indian and Australian institutions and formal arrangements between institutions which promote such exchange programs should be expanded. Indian society values professional education courses such as engineering, medicine, law and management and these can also be linked to the industries in Australia.

Education programs which link internship opportunities to expand the global horizon of the student would be an added advantage. Another interesting area would be collaboration in the area of teacher training, to provide Indian teachers with exposure to up to date pedagogical practices. Indeed, some innovative NGOs are already active in this space.¹⁸ International certification of teachers would be of significant value to the parent institute, especially in India, where higher education institutions are already over-burdened and looking for newer ways to position themselves in the market.

The Foreign Educational Institutions (Regulation of Entry and Operations) Bill was introduced in 2010, promising a footing for foreign universities to directly set up their educational infrastructure on Indian soil. While the Bill is yet to be ratified by the Parliament, the government is looking for other ways to allow (and encourage) entry of foreign universities in India both as 'deemed universities' under Section 3 of the University Grants

¹⁸ See for example, Tara.Ed, an NGO founded and run by AIYD alumni, Jennifer Star. Tara.Ed encourages collaboration between Australian teachers and pre-service teachers with teachers from remote schools in rural India (www.taraed.org).

Commission Act, 1956, or as private universities under the State laws.¹⁹ Regardless, it is clear that the Government is committed to allowing the entry of foreign universities – and it is only a matter of time when this fructifies. Many international universities are already working to create partnerships with Indian institutions in a bid to ride this much anticipated wave, including a number of Australian universities. A possible strategy for foreign universities would be to target partnerships with various private universities in India which have already spent 5 to 10 years in the sector and hence have established a strong brand and student understanding. Such universities are often looking to find ways to catapult themselves into the top tier, through international partnerships and exposure.

Australia would also benefit by encouraging their practicing high education teachers to gain a better understanding of the realities of large democratic markets and rapidly developing economies – especially in the wake what the Australian Government has referred to as ‘the Asian Century’. Coordinating with various management institutions across India, including Indian Institutes of Management (IIMs) towards targeted research and strategic understanding of this sector would be vital.

Action Items Summary:

Agenda	Action
Employability	India suffers from an employability gap issue in its higher education which needs to be surgically addressed. The Australian and Indian education sectors should collaborate to introduce financially viable short term courses and bridge courses targeting young professionals.
Infrastructure	When India eventually opens its higher education sector to foreign universities, this will present opportunities and challenges to Australian universities which may wish to expand their presence in India.
Curriculum and Teachers	Encouraging cross-cultural exchange programs and training opportunities for teachers in the Indian education system to learn in the Australian system especially in areas such as engineering, medicine and technology. Australian universities and Australia teachers should also invest in the opportunity to learn more about India.

Skill Development

In 2011, The Economist estimated that by 2016, three out every 10 skilled additional workers in the world will potentially be an Indian. That is a direct outcome of India’s demographic dividend – with about 600 million youth in the working age group or about to enter the working age.

The need for massive improvements in this space has been well recognised by the Indian Government and private sector alike and has been a realm of major planned spending in the past decade. Vocational training in India is a \$20 billion opportunity annually. According to a 2011 report by a leading financial analyst, it also estimated that approximately 475 million

¹⁹ Aarti Dhar, ‘Foreign Universities Bill: government trying ‘backdoor’ entry’, *The Hindu*, June 1 2012, www.thehindu.com/news/national/foreign-universities-bill-government-trying-backdoor-entry/article3477233.ece.

people will need training by 2022.²⁰ This is close to the Government’s own target of skilling 500 million by 2022.

Pursuant to this goal, the Government has taken a number of steps, the foremost of which was to establish the National Skill Development Corporation (NSDC). The NSDC was envisioned in the 2008-09 budget and set up as a non-profit company under Section 25 of the Companies Act, under the Ministry of Finance. The NSDC has an equity base of Rs. 100 million of which 49% is contributed by the Government and 51 % by the private sector. It is hence a unique effort in the direction of Public Private Partnership in skill development to fill gaps in the existing government-owned infrastructure. This fund is set as a 100% government-owned entity to facilitate its mandate of coordinating and stimulating private sector initiative in the area of skill development.

There are currently three domains of vocational training which are prevalent in India, as listed below.

Source	Mode of Delivery	Approximate Capacity
Part of mainstream education at the secondary level.	Sponsored by the Central Government as part of the Human Resource Development Ministry under Vocalisation of Secondary Schools.	Current enrolment is about 3% offered by about 9,500 schools providing about 150 different two-year programs.
Institutions, both private and public, outside the university system.	Industrial Training Institutions (ITIs) and Industrial Training Centers (ITCs).	Provision for about 785,000 seats. Private sector is also adding many new programs and dimensions in this space.
Three-year Diploma.	Polytechnics: There are approximately 1,250 polytechnics which are operated by the Government.	Approximately 300,000 seats available.

In a country of over 600 million, youth training capacity is severely deficient in terms of capacity and curriculum. In the World Bank report of 2006, it was highlighted “that among persons of age 15-29 only about 2 per cent reported to have received formal vocational training and another 8 per cent reported to have received non formal vocational training.”²¹ The distribution of India’s vocational skills according to employment is illustrated in in Figure 6 below.

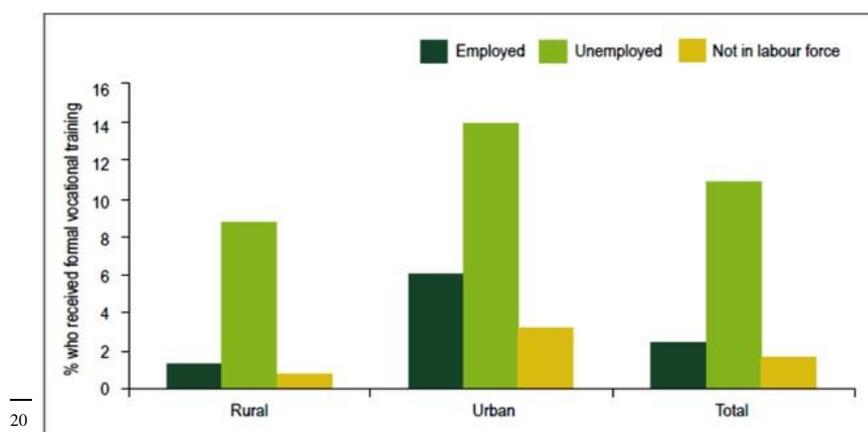


Figure 6: Employment Status of Vocational Educated Students

Mint, December 21 2012, [-NSDC-this-fiscal.html](http://www.nsdc-this-fiscal.html).

²⁰ Source: Status of Education and Vocational Training in India, 2004-05, NSS 61st Round

²¹ Swati Mujumdar, ‘Need for Vocationalisation of Education in India’, India Education Review, www.indiaeducationreview.com/article/need-vocationalisation-education-india/.

A few interesting trends emerge when one investigates the demographics of those who receive vocational training. First, the percentage of people who received formal vocational training was the highest among the unemployed. This implies that there is a strong disjoint between employment and training, which is detrimental especially in a field which is supposed to be directly linked to employability. Second, only 3% of those trained formally are in the employed category. In a country which is experiencing the highest growth in its services and is being championed as the next hub of vocational professionals, this is a worrisome trend. Third, less than 400,000 students are enrolled in vocational education, which works out to less than 3% of the 14 million students or more currently in Standards 11 and 12. Interestingly, this enrolment rate is about 55% in China. In a bid to improve the educational framework around vocational skills, the Indian government came out with the National Vocational Education Quality Framework (NVEQF) identifying ten levels of education from Standard Five to doctorate levels.²² If implemented well, this is expected to standardise the higher education space for vocational education professionals though it would entail a revolutionising of the existing educational framework. Anika Singh, who has worked as a consultant in Youth and Community Engagement in Australia and was an AIYD 2012 delegate, reflected on these issues: “ *...To deliver effective training programs for young people, it is important that skills development is connected with local conditions and labour market. It is important for trainers and vocational training institutes to have a thorough understanding of what are the skill requirements that the employers are looking for and tailor the training program accordingly. It is important to have demand-driven vocational training, which must also include life skills, basic literacy and transferable skills.*”

The core issues being faced by the Indian vocational education space are:

- Lack of industry-academia collaboration. Most industries complain of non-alignment of syllabi with the current industry trends.
- Quality of trainers and infrastructure.
- Lack of opportunities, such as credit sharing, across higher education and vocational education. There is a fundamental lack of focus on creating clear opportunities for higher education and growth in the vocational educational syllabus.

The equivalent system of vocational educational in Australia is organised along the same three dimensions. It is however more widely integrated with higher education and hence highly favoured amongst students. Vocational education exists as a foundation in the school curriculum standardised by the Australian National Training Authority (ANTA) which is now transferred to the Department of Education, Science and Training.

Most vocational colleges are under the control of various State Governments which administer the TAFE (Technical and Further Education) offering courses under the Australian Qualification Framework and Australian Quality Training Framework.²³

²² NVEQF Notification 2013, available at www.aicte-india.org/downloads/NVEQF_Order.PDF.

²³ For more, see Australian Qualifications Framework at www.aqf.edu.au/.

The table below set out the qualifications framework in the vocational college system:

Qualification	Duration	Career Path
Certificate I	4-6 months	Competent operator
Certificate II	6-8 months	Advanced operator
Certificate III	about 12 months	Qualified tradesperson/technician
Certificate IV	12-18 months	Supervisor
Diploma	18-24 months	Para-professional
Advanced Diploma	24-36 months	Junior manager

After the diploma and advanced diploma levels, a student may be eligible for entry into a university and may also be eligible for credit, in some cases full credit for work already completed and this aspect has made vocational courses a choice for entry into the higher level education system later on.

According to the National Centre for Vocational Education Research (NCVER), there are about 1.88 million people enrolled in the various vocational skill development programs under VET (see Figure 7 for a break-up of numbers compared to age).²⁴ More than one third of the enrolment is from the age group 25 to 44 years, which indicates a trend towards retraining and refresher courses in professionals.

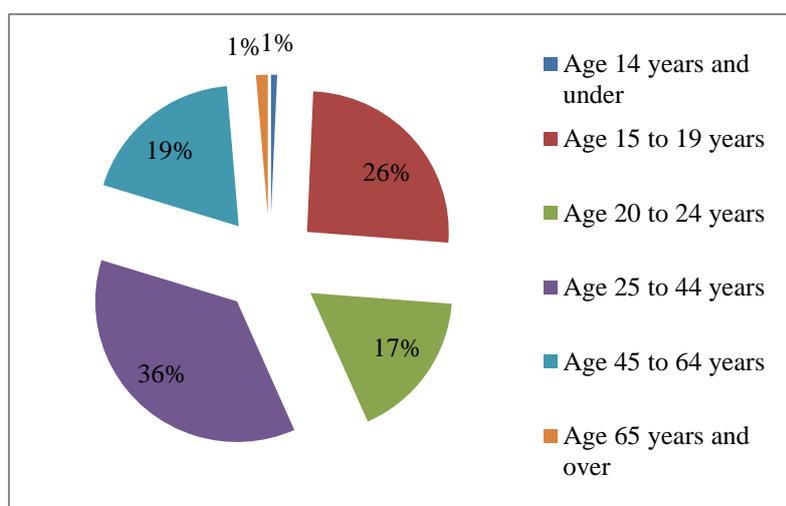


Figure 7: Age wise composition of Vocational Trainees under VET (2011)

Australia and India have strong opportunities for linkages in the space of vocational education – as Australia represents a framework of quality vocational education and India represents the world’s largest market for such an education.

First, there is an opportunity for India and Australia to collaborate in designing an integrated system for creating “bridge curriculum” for movement between secondary, vocational and higher education which is a need of the Indian system (as shown in Figure 8). This would require a customised effort at various levels, as identified under the National Vocational Education Quality Framework of the Government of India. At each level, clear value-add in

²⁴ National Centre for Vocational Education Research (NCVER) Data 2011.

terms of employability or in terms of benefits in existing employment has to be established, nurtured and communicated. This is where the Australian TAFE system can collaborate with AICTE and other Indian institutions towards the realisation of the NVEQF vision.

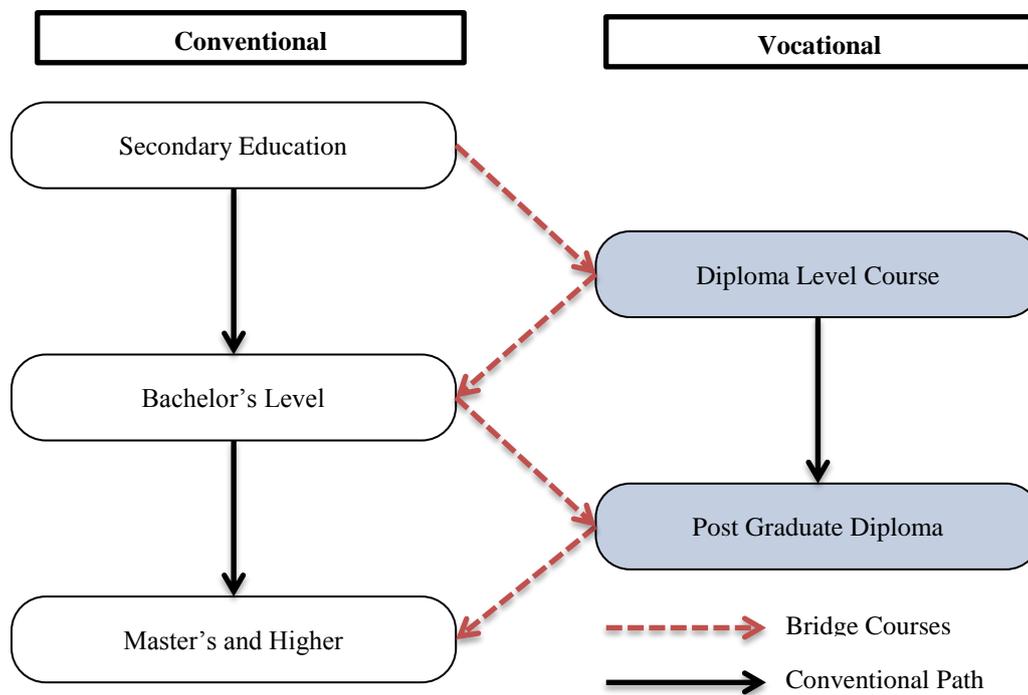


Figure 8: Linkages and Bridge Courses in Vocational and Conventional Education Systems

Secondly, there is significant scope for collaboration in the area of capacity building of the teachers and teaching methodologies in the vocational education space, specifically in polytechnics and ITIs which are the work horses of the Indian education system. Teacher exchange programs between a developed and a developing country setup would be useful for both the nations. Forum such as AIYD can act as key facilitators for such a progressive cross-cultural learning opportunities, either physically or virtually.

Thirdly, India faces the challenge of making vocational training a key asset in its schools. In India, less than 10,000 schools have implemented some form of vocational training in their curriculum and vocational educational is a not a favoured subject even under science streams or amongst students who are clearly going to appear for India's numerous engineering colleges. The key challenge is – how to inculcate innovative ideas of disseminating vocational education where it has most potential, i.e., in rural India. Some years ago, the Agastya Foundation started with a similar challenge faced in practical science and initiated mobile science vans which travel to rural schools. Using its network, and building a quality syllabus in a collaborative space, AIYD and similar platforms can start such innovative ideas to make vocational education meaningful and interesting for school students in India, and even in Australia. Commenting on this Anika says, *“The government must reinforce incentives for young people to remain in school and to promote re-integration of drop-outs into the education system, by introducing models like in Australia. The Early School Leaver program with job networks in Australia is developed to assist youth with completing the equivalent year 12, through vocational education/ apprenticeships/ traineeships.”* /

Action Items Summary:

Agenda	Action
Integration and Quality Issues	The Australian education system can be a key asset for India to realise its goal of improving quality of skill development. Given the sheer scale of the Indian skill development mission, there is a significant opportunity for Australian educational institutions to help stakeholders in India – especially those coming from the NSDC route.
Teaching and Infrastructure	The Indian vocational education system needs significant knowledge investment in enhancing the quality of teachers and infrastructure where the Australian system can play a role.
School based Vocational Education	The Indian school system is striving towards integration of vocational education in standard school education.

Research and Innovation

India is in critical need of promoting an innovation-centric culture. This is now a voice across industries. For instance, about 43% percent of potential investors into the country think that, *“it needs to improve the quality of its labs and research institutions. More specifically, 38% of investors cite distance between research institutions and corporations as a roadblock to developing new products in the country.”*²⁵

Part of the explanation lies in the fact that at the time of independence, research institutions in India were scarce. In addition, at the time of independence there were arguably more pertinent issues at play; namely: the literacy rate was approximately 14% and famine was the single biggest cause of death. Accordingly, building up to a competent research-centric society was a long jump for a nation already reeling under more urgent problems. Despite these significant national concerns, India must be credited for being able to meet its necessities through customised inventions of its own – although almost none of them were pioneering in nature. The Green Revolution of 1960s to win over the food crisis, the Indian Space Research Organization (ISRO) which recently made a robot landing on moon, the Indian Defence Research and Development Organization (DRDO) which has equipped India with ICBM, the atomic agency laboratories which have made nuclear power a key source for India, all have been hallmarks of India’s quest in research. India has also mastered process research to cut costs, improve performance and quality as in cases of generic drugs and low cost surgeries, for which it has emerged as a favoured destination for international customers.

What India still lacks is pioneering research work and a roadmap for it. Beyond the usual IITs, IIMs, IISc²⁶ and a few other government owned ventures, few institutions can claim to be of contemporary international standards. As mentioned above, one of the fundamental problems here is that there is little interaction with industry. It is interesting to note that it was in 1942 that the Council of Scientific and Industrial Research (CSIR) was established. It is an autonomous body and India's largest Research and Development organisation, with 37 laboratories and 39 field stations or extension centres spread across the nation, with a collective staff of over 17,000 with budget of USD 325 million.

²⁵ Ready for the transition Ernst & Young's 2012 attractiveness survey, India.

²⁶ IISc: Indian Institute of Science.

Global Innovation Parameters

“Five input pillars capture elements of the national economy that enable innovative activities: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication. Two output pillars capture actual evidence of innovation outputs: (6) Knowledge and technology outputs and (7) Creative outputs.

Each pillar is divided into sub-pillars and each sub-pillar is composed of individual indicators. Sub-pillar scores are calculated as the weighted average of individual indicators; pillar scores are calculated as the weighted average of sub-pillar scores. Four measures are then calculated:

The Innovation Input Sub-Index is the simple average of the first five pillar scores.

The Innovation Output Sub-Index is the simple average of the last two pillar scores.

The overall GII is the simple average of the Input and Output Sub-Indices.

The Innovation Efficiency Index is the ratio of the Output Sub-Index over the Input Sub-Index.”

Source: *GII 2012*, www.globalinnovationindex.org/gii/main/framework.html

Conversely, Australia has a number of leading institutions targeted at specific research areas. Such research institutions are administered by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education which has a budget of US\$ 8.9 billion for 2012-13, about 25% of which are towards enterprise support, showing a strong support system for private, industry led research. The consolidation of Industry, Science and Research furthers the significance placed on actual economic and practical value of research within a framework of eco-friendliness.

Globally, India and Australia emerge as two different and interesting contrasts. On the 2012 Global Innovation Index, India ranked 64th overall, mainly due to poor institutions, human resource and capital. However, in terms of Innovation Efficiency (see box), India is positioned right at the top, at 2nd position. The Global Innovation Index 2012 ranked Australia as 24th in its list of 141 countries, putting it in the top 20% of all countries. However, the report also observed that Australia’s innovation efficiency sub-index is lagging at 107th position. This essentially implies that research output and knowledge creation per institution and resource deployed is quite low. What it also implies is that the human and capital resource of Australia and its Institutional strength can be combined with the high efficiency of innovation of India to generate highly positive outcomes. How can this be done? This a key question for both countries.

There needs to be strong linkage in terms of Indian research in Australian Institutions, mainly at the institutional tie-up levels. Such research can be towards solving a real life problem existing in either of the countries. For example, the Brian Holden Vision Institute in Sydney is collaborating with a number of eye care institutions in India to build competencies and exchange clinical data, research results and products, aiming towards solving vision ailments. Another interesting area for collaboration in pure science research between the two nations could be Thorium-based energy, as India (#1 reserves) and Australia (#3 reserves), together command about two thirds of world Thorium, whose combined energy would exceed that of the entire global petroleum or Uranium reserves. Similar relevant and interesting challenges need to be identified which are mutually beneficial to both the nations and extended as a collaborative research problem for young researchers. This will also require strengthening of initiatives such as the AISRF (Australia India Strategic Research Fund). AIYD could potentially help in establishing this connection – being engaged with the brightest young leaders from both the nations. It can help identify the most critical common issues, the most relevant institutions across both the nations and also help recognise the appropriate researchers for such an endeavour.

Conclusion

Australia and India are two nations bonded in many special ways – they are both proud democracies which share the bond of the Commonwealth and in the near future are poised as two nations who can share capital, resources and manpower for mutual win-win scenarios. The 400,000 strong Indian diaspora who live in Australia form 2% of Australia’s overall population continue to bring the two nations closer together and numerous Australians of who are of Indian origin now occupy positions of influence in professional and academic domains.

Indian students spend close to \$17 billion a year on foreign based education – a growth rate of 250% in the past decade.²⁷ Despite this high demand for foreign based institutions, pressure on existing quality institutions continues to increase. This is largely due to the changing demands of the Indian middle class, which is being tied down by the cost factors, compounded by the decreasing rupee value. While this may appear to be a challenge for Australian universities, new and innovative cost-efficient mechanisms of delivering education from overseas also presents itself as an opportunity for universities to differentiate themselves through, for example, short term courses, employment linkages and online based learning.

However, education has to be seen as not only a trade opportunity but also as an enterprising path towards exchanging cultures, people, ideas and research. Indeed, while it is a business prospect it is also a chance for social transformation on a never before seen scale. It can help the two countries to understand each other’s context and socio-economic conditions better and act as a spur for long-term economic and industrial cooperation.

In the field of education, Australia and India should develop a focussed approach on collaborating with each other, not only in terms of ‘student recruitment’ but also in terms of syllabus enhancements, entrepreneurship and skill development, capacity building of teachers and mentoring of institutions.

Collaboration with respect to applied research on challenges that affect both nations is an opportunity which should be welcomed with open arms by both the countries. Platforms such as the AIYD are useful for exchanging ideas amongst the future leaders from both nations and allowing them to understand the context of the other nation. Long term fellowships and opportunities for joint cross-border research projects in science, technology, societal issues, health and enterprise would allow young leaders to develop these ideas into collaborative projects.

An ideal scenario would be for Australian and Indian institutions to implement decade-long programs towards educational alliances, where both private and public sector institutions could carry out long term partnerships. In the short term, student exchange, internships, experiential learning and fellowships can be targeted, while in the medium-term (5 years), syllabus enhancement, teacher training, systemic knowledge transfer would be the key. In the long term (8-10 years), a sound research based partnership, beneficial to both nations and creating large institutional presence in mutual nations could be a potential avenue to target.

²⁷ ‘Number of Indian students heading abroad increases dramatically over the past decade’, ICEF Monitor, November 27 2012, <http://monitor.icef.com/2012/11/number-of-indian-students-heading-abroad-up-300-over-past-decade>.

There is no doubt that the two nations, with similar focal points, share an opportunity of mutual benefit in the educational sector which has the potential to have an indirect beneficial effect on other sectors. However, to begin the process it is essential to bring the right political motivation and industrial interest which can spur the right policy and support towards such a synergy.

A final comment from Anika, an AIYD 2012 delegate, concisely illustrates the opportunities for collaboration in education between Australia and India: *“With the two countries, showing their commitment towards each other’s growing economies, I am sure there will be fruition from this partnership. Australia-India have excellent trade relationships, they should now partner on working together to develop solutions - skills and training solutions - that improve the capacity of people to earn higher wages and to participate in an increasingly global economy.”*