Enhancement of Employability for Adolescents through a Continuum model that integrates Secondary Education, Skills Training and Internships



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Salaam Bombay Foundation

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1. The Skilling Ecosystem

India has one of the youngest populations in the world, with approximately half of its citizens aged below 26 years. This population statistic suggests that India can generate a resource pool of man-power for itself and the world in the near future (Mujumdar, 2012). However, to reap this demographic dividend, it is necessary to provide support to this young population through better education, skills training, and employment opportunities.

As a part of the National Skill Development Policy, 2009, an overall target of training 50 crore individuals by 2022 was set, out of which the National Skill Development Corporation (NSDC)¹ was directed to skill 15 crore students. As the reality of this unrealistic target began to set in, the government revised the overall target to 40 crore in 2015. Till 2017, the NSDC had managed to cumulatively train only 1.15 crore candidates, prompting the government to abandon this target altogether and instead focus on the quality of the skill training (Laha, 2017). This constant shift in approach and lack of a clear strategy continues to plague skill development in India even today.

The skilling ecosystem majorly aims to provide short-term training to youth who have already dropped out from school, which means that it admits students who have already been deemed as 'failures' within the formal education system. The idea is to provide short-term technical/non-technical courses to make youth more employable, once they have dropped out of school.

This approach has several drawbacks. Firstly, a significant portion of youth who take up the training, do it as a last resort, without being completely aware of the nuances of the trade and its potential in their careers (Mishra, Chapman, Sinha, Kedia, & Gatta, 2018). Fallout of this is that such youth dropout before completion of their training. Secondly, the ones who get trained don't take up jobs post completion of their training (India Today, 2019). Further, it has been observed that some fractions of those who did gain employment post their training, also dropped out later. (Qazi, 2018).

In addition to the Government of India's vocational skilling programme meant for dropout youth, the National Apprenticeship Promotion Scheme (NAPS) provides a continuum model for those adolescents who strive for a formal career through vocational education.

Dropout before completion of the training

Dropout from not seeking employment altogether

Figure 1: Shrinking adolescent aspirations at different levels of the Skilling Ecosystem

Launched in August 2016, by the Ministry of Skill Development and Entrepreneurship, NAPS provides for upward mobility towards a technical career path. As on March 31, 2018, only 2.9 lakh apprentices had been trained against a cumulative target of 20 lakh that was set for this period (Basu, Kumar, & Shekhar, 2019). Given this data, it is unlikely that the ambitious target of training 50 lakh apprentices will be met by 2020.

The issues cited above lead us to recognise that a different approach to maximise the aspiration and benefit of skills training amongst the youth is required. Thus, adolescents between the ages of 12 to 17, when exposed to technical and non-technical vocational education or skill training as part of their school curriculum, along with industry exposure, are able to make informed choices toward their career paths and be more job ready when they formally enter the job market at the age of 18.

Addressing the skilling gap and incorporating skill programmes for youth while still in school, the Government of India modified the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) to include vocationalisation of secondary education² as one of its goals in 2014, with the aim of enhancing the employability of youth.

2. The Rashtriya Madhyamik Shiksha Abhiyan

The RMSA, launched in March 2009 under the Department of School Education and Literacy, Ministry of Human Resource Development, is a national scheme majorly sponsored by the central government and supported by state governments to improve the quality of secondary education as a whole. One of the ways it addresses the skill gap is through competency-based, modular vocational courses.

Under the vocationalisation of secondary and higher secondary education thematic area of RMSA, 3,654 government schools in 31 States/UTs covered 3.65 lakh students between the 9th and 10th standards across 16 sectors, including - Agriculture, Apparel, Automobile, Beauty & Wellness, Banking/Financial Services & Insurance, Construction, Health Care, IT & ITEs, Logistics, Media & Entertainment, Multi Skill Physical Education & Sports, Retail, Security, Telecom, and Travel & Tourism (MHRD, 2015). This number covers just 2.5% of the total government and government-aided schools in India (Rashtriya Madhyamik Siksha Abhiyan, 2015-16); showing that the outreach is still very low in comparison to the higher numbers set for adult (18+ years) skilling.

Apart from the low coverage across the country, the operational model for setting up vocational education under RMSA is highly capital intensive. According to the document from the Department of School Education & Literacy on the "Revision of the scheme Vocationalisation of Higher Secondary Education" released in 2014, the capital expenditure required to set up the programme is INR 10 lakh per school. This includes only the cost towards "Tools, Equipment Furniture, Computers, Diesel Generator Set" and doesn't take into consideration the cost of civil work required to set up these labs/workshops. The document also states the annual recurring expenditure for each school is INR 22.20 lakh, for training a total of 200 students across standards 9th, 10th 11th and 12th (Ministry of Human Resource Development, 2014). Even if one does not consider the capital expenditure involved, the per student training cost per year under RMSA works out to approximately INR 11,000 based on the estimates provided for operational expenditure only (Ministry of Human Resource Development, 2014). As per the provisions of the scheme which entails a four-year journey from 9th to 12th standard, for a participant under RMSA, the total training cost per student would be INR 44,000 for just the vocational education component. Such a cost intensive approach is neither scalable nor sustainable in the long run.

Therefore, the main impediment which the RMSA faces, is the lack of an innovative system that has an operational model leveraging school spaces and infrastructure, and other existing components from the skill development and education ecosystems to avoid re-inventing the wheel. An alternative to this highly capital intensive model can be a lighter, portable model which reuses the tools and equipment meant for the training. Such a model can be scalable, replicable and cost-effective.

Since 2014-15, organisations like Salaam Bombay Foundation (SBF) have trained more than 10,000 students in a cost-effective manner, across the four urban cities of Mumbai, Pune, Kolkata and Bengaluru. The skills@school programme trains adolescents in government and government-aided schools with skill-building and provides them with market orientation, enabling them to think about progressive career paths. This ensures that these adolescents stay in school and complete their education. Some estimates suggest that school dropouts lead to an annual loss of 0.3% of India's Gross Domestic Product (GDP), worth USD 6.79 billion (DHL, 2018). By lowering school dropouts the programme also addresses this loss in GDP. Each adolescent enrolled in the skills@school programme completes specific training for skills in trades like Mobile Repair, Computer Hardware Repair, Home Appliance Repair, Automobile Repair (Two-Wheeler Technicians), Robotics, Graphic Design, Web Design, Bakery and Confectionery, Beauty and Wellness, Fashion Design and Jewellery Design. Trainings are conducted within the school premises before or after school hours. Each session is conducted for two hours per day with a frequency of three to six days a week. Duration for each course is between 70 – 80 hours depending on the trade and the entire training is completed in four to five months including assessments and certifications. The programme also imparts additional skills like Financial Literacy, Conversational English and Entrepreneurship. All this is achieved at a per student training cost of approximately INR 5,000.

3. The 'Skills in a Bag' Model for SBF's skills@school

The SBF model for skills@school enables the portability of tools and equipment though a kitbag which rotates between the schools as and when training is imparted. This ensures that the heavy expenditure on setting up capital assets is not required. Additionally, the cost of the kitbag is divided across the schools which reduces the operational cost further.

The standardised formats for adolescent recruitment, training, requirement for tools and equipment, assessments and certifications ensures the ease of replication across geographies.

This model is illustrated in Figure 2.

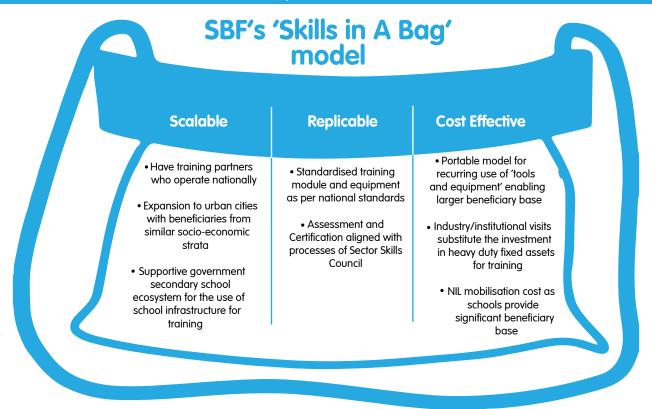


Figure 2: The 'Skills in a Bag' Model

The 'Skills in a Bag' model focuses on sustainability by incorporating components of scalability, replicability and cost-effectiveness at all levels of the programme.

3.1 Scalability

Through liaisons with the State Education Department, Municipal Corporations, principals and trustees of schools for seeking permissions in Mumbai, Pune, Kolkata and Bengaluru, the programme ensures a streamlined programme delivery that can be adopted across various schools across cities.

The programme partners with NSDC accredited partners who support the training component of the programme, assuring quality. These partners are also chosen based on their national presence thereby reducing the time it takes for capacity building while expanding to a new city.

Students are the main beneficiaries of the programme, and hence expansion to urban cities takes into consideration their similar socio-economic conditions. This eases the process of scaling to newer cities as the profile of the adolescent remains similar. Through the students' recruitment process, SBF also makes an effort to break gender barriers and social assumptions about various trades and motivates adolescent boys and girls to make choices based on their own interests, without

being pressurised by social gender norms. Comparing gender enrolments amongst trades (between 2017-18 and 2018-19) skills@school has seen the following changes: the Beauty & Wellness trade has experienced an increased enrolment of 111% for boys, while Home Appliance Repair and Computer Hardware Repair have both seen an increased 150% and 52% enrolment for girls respectively.

3.2 Replicability

Taking into consideration the needs and context of the surrounding communities, the programme has identified vocations that are desirable and pique the interest of the student. Each training module is standardised, equipping students to perform the lowest job role for a skill mentioned in the National Skills Qualifications Framework (NSQF). This ensures uniformity in training, irrespective of variations in the location of implementation. The assessment aspect of the programme is also implemented by third party Sector Skills Council affiliate partners, assuring unbiased and uniform evaluation of all students who complete the training. There are a standard set of criteria like percentage of attendance, performance in mid-terms which qualify students to appear for the final assessments of certification.

Basic training sessions (theory and practical), exposure visits to various industrial locations, training in institutes specific to the different trades, guest lectures and additional entrepreneurship, financial literacy, nutrition, self-defence and gender sensitisation sessions are included in the training process. A Standard Operating Procedure documenting these aspects, helps all stakeholders of SBF have a streamlined implementation structure of the planned model.

Additionally, these trades are also selected based on the assessment of the skill needs within the local communities the students are a part of. It takes in consideration emerging part-time internships, entrepreneurships, and future employment opportunities in various trades. Further, these courses provide diversity and flexibility within skill development and ensure that the demands of skills are also met by the supply of it rather than the other way around.

Technical trades like Home Appliance Repair, Computer Hardware Repair, Mobile Repair and Automobile Repair (Two-Wheeler Technicians) are more demand driven in low-income communities. Here, the capacities of the communities to buy consumer appliances have grown; however, the cost of maintenance and servicing of such goods through company affiliated service centres remain comparatively high, and for many in the community unaffordable. Thus, the demand for technicians who are trained in providing services for various consumer appliances at a lower cost is high. Courses like Jewellery Design, Fashion Design, and Beauty and Wellness, besides fitting the market demand, also provides a space for freedom of expression and motivates adolescents to support their peers towards the same. Bakery and Confectionery trade has been customised to adjust to the equipment which might be available within low-income households. The course trains students to utilise the skills they have learned and cater to localised small-scale market demands.

3.3 Cost-Effectiveness

Being an in-school programme, skills@school gains access to the captive school audience who become the beneficiaries of the programme. This minimises the beneficiary mobilisation cost. Schools are selected on the basis of the space available within the premise in order to conduct training before/after school hours. Students are made aware of trades which are available in the programme, various career options available post training and the kind of advanced modules accessible for further career development. These introductions and interactions with students lead them to make an informed choice.

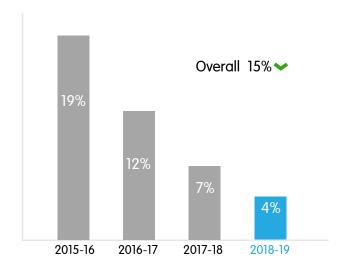
Leveraging the current school spaces and infrastructure also reduces SBF cost on investment in permanent fixtures required for the training. With the investment in portable 'tools and equipment', SBF is able to reach a larger base (of schools and batches) by reusing its equipment over a longer period of time. Trainings at various well-established institutions and industry locations also enable students to get hands on experience in real work environments rather than at a cost-heavy school-based technical lab.

Considering the lack of well-functioning IT infrastructure within government secondary schools, students are unable to access trainings that require heavy dependence on computers, laptops and internet. Hence, courses like Web Design and Graphic Design, introduced through a 'tech on wheels'³ model, enables students to develop the aptitude towards skills within IT without high cost investment in fixed assets. While for those students who perform well academically, and show keen potential and interest towards Science, Technology, Engineering and Math (STEM) fields, Robotics provides them the boost they need.

3.4 Impact of 'Skills in a Bag'

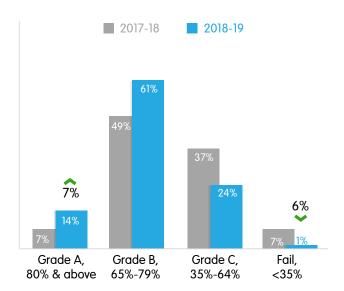
A holistic Management Information System (MIS) ensures regular monitoring within the project cycle. Number of training sessions conducted, number of students present in a class, number of students appearing for evaluation, number of students scoring across different bands, etc. are some of the major components of the MIS measurements. The system leads to foreseeing issues which might arise during implementation of the project cycle and enables timely corrective actions. Additionally, this also ensures standardisation across locations.

Evidence from such an operational model has led to indicators of attendance, dropouts and assessment, improving after every project cycle. In Mumbai, between 2015-16 and 2018-19, the dropout rate of students during trainings has decreased by 15%.



Graph 1: Dropout trends among enrolled students (2015-16 to 2018-19)

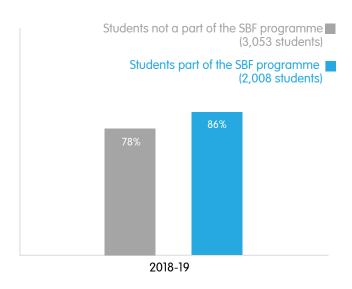
Between the period of 2017-18 to 2018-19 in Mumbai, students scoring above 80% who were part of the programme (through third-party assessments) increased by 7% and the percentage of adolescents who were unsuccessful in their examinations decreased to just 1%.



Graph 2: Third-party assessment results for students trained between 2017-18 and 2018-19

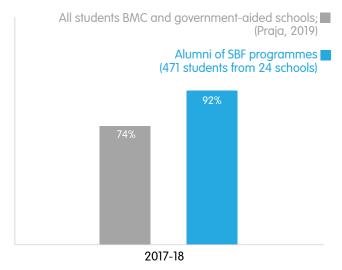
In addition to the MIS, the programme also measures its impact across broad indicators like perusal of higher studies, capacity to earn a livelihood, outlook towards one's career, improved participation in school activities, etc. Under the indicators mapped within the programme, the impact results for the study conducted in 2017-18 illustrated that 92% of the alumni (since 2014-15) were pursuing education; 97% of students enrolled in the programme during that period wanted to study after 10th standard; and 16% of alumni (since 2014-15) were engaged in full-time/part-time/opportunity-based employment to support their education (Salaam Bombay Foundation, 2018).

Another aspect within the impact assessment of the programme is measuring comparative impact (between intervention and non-intervention groups). The comparative data for school attendance across 70 schools in Mumbai in 2018-19 showed that students who were a part of the SBF programme (2,008 students) attended school 8% more times (during the full academic year) as compared to students (3,053 students) in the same class who were not part of the programme.



Graph 3: The overall academic attendance in Mumbai (2018-19)

Additionally, for students who appeared in the Maharashtra State Level Secondary School Examinations in 2017-18, the overall pass percentage in Mumbai's municipal and government-aided school was 74% (Praja, 2019). In the same year SBF alumni students' had a pass percentage of 92% (for 471 students) across 24 schools.



Graph 4: Pass percentage comparison for Maharashtra SSC exam results in Mumbai (2017-18)

4. Continuum of Skills and Education towards Enhanced Employability

Integration of skills at the secondary education level (under RMSA's Vocationalisation of Secondary and Higher Secondary Education and SBF's skills@school programmes) provides a good base for exposing adolescents to different jobs and career pathways, helping them develop aspirations. However, in the current scenario, an adolescent is forced to choose between continuing higher education or joining a vocational programme. However these adolescents might not be fully capable of selecting the correct pathway for themselves. Neither do they have the flexibility of cross-sectional mobility across educational and vocational streams. This results in uninformed decision making, poor choice of career paths and dropout from employment. Internationally. apprenticeship programmes have helped in addressing these gaps.

4.1 International Perspectives on the continuum through Apprenticeship Programmes

In many countries, apprenticeship programmes have been hugely successful and are worth emulating. One such instance is the apprenticeship programme offered Germany. Germany has the lowest youth unemployment rate in Europe and among the lowest in Co-operation Organisation for Economic Development (OECD) countries. A significant factor is its Technical and Vocational Education and Training (TVET). In this system, students after high school apply to a private company for a contract and upon acceptance, receive in-class training in a field of their choice at a government-funded vocational school. Most students spend three to four days a week at work and one to two days in school. At the end of the term, students are given a certificate that ensures that they can transfer between similar businesses. This kind of a system works because the government, private businesses and intermediaries, including Chambers of Commerce, industry and unions, are aligned in their objectives and each is driven by its own set of incentives. Such a model also facilitates a multi-sectoral experience which is needed for the current labour market demanding various skills from the new entrants in the market.

Australia has a similar Vocational Education and Training system (VET) that provides full-time or part-time apprenticeships through government-owned Technical and Further Education (TAFE) colleges as well as government approved registered training organisations. Students in higher secondary school can choose to take on apprenticeships that last for a period of three to four years in technical trades that include a combination of on-the-job and off-the-job training as defined by the employers. The Australian Apprenticeship system has

also introduced a 'traineeship' to provide hands-on, work experience for non-trade related areas of occupations for a shorter period of one to two years. Made available to higher secondary school students, this allows for a continuum of education. The industry and the qualification required will determine whether it is classed as an apprenticeship or a traineeship. Expanding from the traditional weekly classroom training component, off-the-job trainings are also made available through distance learning, online learning or 'fully on the job' with regular visits at the workplace by a representative of a registered training organisation to deliver training and carry out assessments. Within the apprenticeship models of these two countries, the apprentices or trainees are considered employed and their wages regulated according to industry standards and even increased with each year of the apprenticeship (ILO, World Bank, 2013).

4.2 India Perspective: National Apprenticeship Promotion Scheme (NAPS) as a continuum to Vocational Education

The Government of India introduced the National Apprenticeship Promotion Scheme (NAPS), launched in August 2016, under the Ministry of Skill Development and Entrepreneurship, to promote apprenticeship training. Apprentices covered under NAPS include: trainees passed out from Industrial Training Institute (ITI) courses, trainees under dual-learning mode of training from ITIs, trainees who have completed Pradhan Mantri Kaushal Vikas Yojana (PMKVY)/ Modular Employable Skill Scheme (MES) courses and candidates who possess minimum educational qualification required for the trade without having undergone any formal training in an ITI/PMKVY/MES.

Training apprentices on the job is a crucial element in solving the problem that companies face when they hire from technical institutes and have to re-train them in specialist skills. Another positive aspect of the programme is that candidates are able to achieve upward mobility within their sectors vis-à-vis employability. At the end of the apprenticeship training, the apprentices appear for an All India Trade Test conducted by the National Council for Vocational Training in designated trades or optional trades under NAPS. Successful apprentices are awarded a National Apprenticeship Certificate, considered a qualification for employment. This certificate makes apprentices eligible to apply for further education in a relevant branch. The certification also helps students to pursue ITI training. (Department of School Education and Literacy, 2019)

The apprenticeship programme has helped significant number of adolescents improve their employability. Apprenticeship under NAPS is a full-time opportunity which requires adolescents to work through the day leaving little time to simultaneously pursue regular education, if they wish to. The 'one shoe fits all' strategy of NAPS restricts many of them from enrolling in the programme.

4.2.1 Need for better Market Linkages within NAPS

While NAPS is a highly aspirational programme, it is also important to take cognisance of the ground realities that prevent it from meeting its targets. Since its inception (in 2016) till March 31, 2018, only 2.9 lakh apprentices had been trained against a cumulative target of 20 lakh that was set for this period (Basu, Kumar, & Shekhar, 2019). With just 15% of the target being met, the overall target of training 50 lakh apprentices by 2020 seems unlikely. In addition, a close analysis of the data on the NAPS portal of Ministry of Skill Development and Entrepreneurship reveals that out of 64,390 establishments⁴ registered, only 10,819⁵ (16.8%) have one or more apprentices undergoing training with them. The low participation can be because many establishments have cyclical and seasonal demands; and therefore the need for apprentices is high only when order books are filled. Demand is low during an economic downturn when overall production of goods and services is low. This results in companies being unwilling to support two vear-lona apprenticeship programmes. probable reason could be that under the scheme, only 25% of the prescribed stipend payable to an apprentice is reimbursed by the government, creating a financial burden for companies, which they are not willing to bear, given the low value-add of the apprentices during lean periods.

5. Recommendation

According to worldwide best practices, in order to increase employability, it is essential that finishing schools have a structure which is flexible, taking into account the country's specific context, needs and opportunities according to the demand in the market; that they be backed up by specific training programmes involving instructions in both the technical and soft skills directly related to the specific sector the country needs to develop (Garcia & Bafundo, 2014).

Also, putting this in the context of India where employment in the informal sector accounts for 92% of the overall job market (ILO, Government of India, 2018), a flexible continuum model of skills and education will steer a pathway towards the formal economy. Such a model will work better if the level of regulation by the government is kept relatively low and it is left to the market forces to determine the need, demand, timing and incentives to make it successful.

In addition to apprenticeships, a stipend-based 'internship' model can provide adolescents more flexibility towards an upward mobility in education as well as their career. Connecting the demands of the market with high school pass outs can be a well-rounded way to approach a programme which is trying to address the continuity of education and skilling.

As a result of the model, adolescents will have access to internships to gain 'hands-on' industry experience while continuing their education, develop further exposure and aspirations towards different career pathways and also get a stipend while doing the same. This might also support the 20% of the country's adolescents who drop out from education due to "financial constraints" (NSSO, 2014); it will be able to provide familiarity with the industry making them better professionals for the future. This way, interns will also have an opportunity to get a sense of the professional environment, work culture, assessment of skills and gaps without worrying about full-time employment (UNDP, 2018).

The model provides adolescents with myriad advantages to grow in their careers as they reach the age of 18. It provides a space where - one, the adolescent gains awareness towards different career pathways and opportunities which leads to informed decision making; two, the adolescent who wants to study further with a set professional goal can do so through the financial support of a stipend (which the internship will provide); and three, the adolescent entering the job market would have an advantage over peers given their exposure, experience and aspirations alongside the attainment of an educational degree.

The above model is illustrated in Figure 3.

THE EDUCATION-EMPLOYMENT PARADOX

An education system that imparts knowledge but doesn't help secure a job.



Skill training that helps secure a job but offers no sustainable career growth.



DEAD END

Investing in Adolescents for Reaping Demographic Dividends







12-14 years 14-18 years 18+ years

Integration of Skills and Secondary Education

Exposure to 21st century skills for adolescents

Exposure to different career pathways

Continuity of education

Continuum of Skills and Education towards Enhanced Employability through internships

Learn through industry standards

Earn from stipend-based internships

Grow through continuing education, gain hands-on experience and develop career aspirations

Better Employable Workforce

Make informed decisions about career

More job-ready for a competitive labour market

Better access to formal sector employment

Figure 3: A model that integrates secondary education, skills training and internships

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