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Industry academia missing link: Possible model of skilling with industry integration

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Abstract
India is one of the youngest nation the world. By 2020, the median age in India will be just 28, compared to 37 in China and the US, 45 in Western Europe, and 49 in Japan. This data indicates that India needs to cater this young population and train them in today's and futuristic skills that would become the cause of economic development and eradicate the poverty of the country which is number one Goal of in 17 global goals set by the United Nations Development Programme.
To take this forward India needs Innovative model of skilling and the paper explained how the missing links between Academia and Industry can be addressed. Both Institutions can leverage each other for the skilling the youth since skilling youth is not just a mission, but a paradigm shift in the social behaviour of stakeholders including Educate, Educator and Employer. The paper detailed out the key responsibilities of both institutions along with key risks and apprehension from Industry side for adopting the innovative model of skilling.
The model of skilling facilitates earning during learning and provides students with opportunities to enhance their qualification with multiple entry and exit.

Keywords: dual model of skilling, industry integrated model, industry model, dst, dual model, skilling youth, industry academia partnership

Introduction
Haryana has seen major industrialization in recent past, but industry integration with vocational education has not attained the desired levels. The Industry employs unskilled, semiskilled and skilled workforce to run its various operations.
Skills and knowledge are the driving forces of economic growth and social development for any country. Changes in technology are outpacing education system and Industrial operations. It is imperative that Education and Industry are brought on the same platform as one entity to face this challenge. Acquiring specific skills has become an essential prerequisite for being job ready and employable. People with higher levels and better standards of skill sets find it convenient to deal with the changing dynamics of the Industry.
In India, millions and millions of youth lack employable skills. To skill such a huge population, it is important that Training Institutions partner with industry which can offer state-of-the-art training laboratories and shop floors in various sectors. The availability of such training facilities affords trainee to acquire knowledge and skills which is Industry relevant.
To address this growing challenge Government is recommended to set up institution or build the capacity of existing institution which can offer Industry and skill specific Certificate, Diploma, Advance Diploma and Degree courses based on Industry integrated class room and on-the-job training model.

Objective of the program
To provide Industry demand oriented higher education to youth through skill pathways, enhancing their competence for employability and earn-ability.

About the program
The Institution should offer Integrated multiple entry and exit Certificate, Diploma, Advance Diploma and Degree courses based on class room and on-the-job training model. The programme duration ratio for classroom training to on-the-job training should be 30:70. The training module and its delivery should largely depend upon the curriculum and skill sets.
The willingness of Industry to participate of the program is a pre-requisite, for which co-operation should be solicited from Industry associations such as CII, FICII, ASSOCHAM, etc. as well as individual industries by convincing them about the merits and mutual benefits of the program.
The students should be mobilized as per the Industry's requirement and put through rigorous counseling sessions for selecting trainee with right aptitude.

The program can be conducted as per three available options.

Options-A. Classroom, Workshop and On-the-job-training being conducted in the industry campus.
Option-B. Classroom training at the Institution temporary campus in the vicinity of industrial cluster and workshop and On-the-job-training in the selected Industry clusters.
Option-C. Classroom and workshop training at the Institution campus.

The duration of training shall be determined by the nature of Industry or trade where a trainee should be engaged for

receiving training. It will be sole discretion of the University in matters of course design curriculum, content, duration and certification. The Institute should provide certification at each level of threshold of the training.

The program is recommended to run on progressive pathway with assured horizontal and vertical mobility to the students. The performance indicators of the training should be defined and the data captured by mentors/trainers who should be with the students. The corrective action should be taken as per requirement.

The semester system should be linked with formal education system and assessment should be conducted in the Industry campus in the presence of the respective Institution officials.

The program should be designed after consultation with multiple stakeholders including Industry, NSDA, NSDC and Sector Skill Councils.

Table 1

Award	Duration	NSQF Level
Certificate	upto 6Month	Level 4
Diploma	1-Year	Level 5
Advance Diploma	2-Year	Level-6
Graduate Program	3-Year	Level-7

Statement of need

Youth unemployment is a large problem in India. The lack of skills sets required to perform the jobs at workplace is the major reason for their unemployment.

We have reached out to multiple Industries and Industry Association including IT/ITES, Telecom, Electronics, Automotive, Healthcare, Textiles, Apparel, Security and many others and obtained the variety of responses including the current and futuristic Job roles. In addition to this, we have validated the our understanding from the secondary research.

Table 2: Methodology & Program Execution of Dual Model of skilling

Area	Methodology and Execution
Industry Integration	▪ To reach out to the selected Industries including IT/ITES, Automotive, Electronics, BFSI, Retail, Retail, Textiles & Garments, Solar Energy, Transport and Logistics. ▪ To have regular interaction with Industry leaders. ▪ To obtain the high demand Job roles and validate from the corresponding data obtained from Youth Aspiration Survey and Sector Skill Councils. ▪ Preliminary discussion, Feasibility, Scope and Objectives to be agreed. ▪ Ascertain capacity of the Industry to support such program. ▪ To Sign a MOU clearly defining the demand for next three years ▪ Start working on the curriculum development.
Curriculum Development	▪ To form a committee of Industry leaders and SSC on content development. ▪ To map and integrate the high demand Job roles with the NSQF levels ▪ A semester wise curriculum should be designed for three years with a progressive pathway ▪ The program should have 70 to 80% of the OJT while 20 to 30% classroom component. ▪ Each Semester should focus on key learning outcome. ▪ The Program to focus on developing on pre-determined vocational skills and ability. ▪ Periodic assessment on key learning outcome ▪ To sign a comprehensive Agreement with Industry partners.
Candidate Selection	▪ Define the candidate qualification pre-requisite for enrolling the candidate in the programme. This includes providing a lateral entry to ITI or NSQF or having a bridge course for normal 12th pass out. ▪ Development of multiple screening test including aptitude, psychometric followed by one to one discussion. ▪ To form a candidate selection committee and putting Industry nominated officials. ▪ Float a advertisement in the newspaper for test and counseling ▪ Select the candidates in consultation with corporate
Capacity Assessment	▪ To understand that there are three types of Infrastructure required- Classroom training, Skill Lab with Simulators and OJT infrastructures. ▪ For classroom training the following options should be explored- The Industry training room, nearby Industry Association space and academic colleges and University. ▪ For Skill Lab To sign up with the local ITI and Polytechnic Colleges in the agreed clusters and to do the due diligence for invest in the Skill infrastructure ▪ There may be cases where Industry will provide the Skill lab in those cases the options should not be explored.
On- Campus Training	▪ To develop the skill lab according to preferred sectors. ▪ To engage the Sector Skill councils for lab development ▪ To reach out the Industries for opening up their Centre for Excellence for skilled manpower supply ▪ To reach out to Government departments to provide the grants for skill lab ▪ To send the batch to Skill lab or to OJT Partner ▪ To prepare the students for Skills of tomorrow.

Pedagogy of the program	▪ As per the content developed, to define the classroom and OJT hours of the program ▪ To define the weekly number of days for OJT and classroom (4:2:1) ▪ Aligned the classroom with OJT and vice versa (OJT pivoted classroom)
On the Job Training	▪ As per the agreed learning outcome, the batches have been handed over to OJT Partner. ▪ The first year of the program should focus on the overall development of the candidates. ▪ The candidate should invest time in understanding the nuts and bolt of the Organization. ▪ Time to invest in giving exposure of end to end process and organization ▪ To engage them and indentify the key strength in each of the candidates. ▪ Producing Employable Resource
TOT, Assessment and Examination	▪ Ascertain the availability of Trainers and Assessors ▪ Conduct TOT program for Trainers ▪ Deploy the Trainers and Assessor in the required locations. ▪ Detail out each process and assign a marks to them ▪ The exam should be taken at Campus and in the Skill lab under INSITUTION supervision.
Quality Mechanism	▪ Aims to monitor the elements of inputs, processes and output of the programme ▪ Evaluation of the program will focus on outcome achieved and impact of the training/OJT on candidates. ▪ Surprise visits during the scheduled and agreed time slots of OJT/Training. ▪ Setting baseline for the performance indicators and capture data against agreed performance indicators ▪ Monthly visit, Priority to be given to those places where performance are low on defined parameters
Mentoring and Career Support	▪ Identify industry experienced mentors/ trainers with experience who can mentor the candidates completing training ▪ To run the mentorship program as per the calendar ▪ To assist the candidates in placement post program completion.
Grievance Redressal	▪ To constitute a complaints/ grievance cell for the Industry Off Campus Program ▪ Comprising of 3 members from one from Industry and two from University ▪ To provide a fixed time slot for each complainant to express his/her complaint/grievance. ▪ The detailed modalities should be worked out as per the University rule.

Risk and mitigation (Stakeholder wise)

Considering that the program should run outside the University campus, the proposal should come with a robust risks and mitigation plan duly validated from various stakeholders. Appended below are the key challenges and prepared a mitigation steps. The more challenges should be identified during the pilot project with the Industry.

Table 3

Stakeholders	Key Challenges	Subsequent Mitigation steps
Student	▪ Limited participation of the student's in selection drive ▪ Drop- out of the student's post joining including disciplinary action on their attitude or self drop out due to personal reasons ▪ Student's absence ▪ The students start looking at limited value in the program ▪ Students limited engagement in the company ▪ The student start feeling discriminated ▪ The students do not perform as per the expected outcome	▪ To make the Scheme more attractive byearn and learn models ▪ To lay down detailed process for program management. ▪ To have a psychometric test for the students during selection ▪ A dedicated counselor for multiple programs could also be arranged. ▪ Institute and Industry can decide a OJT program management policy ▪ Monthly meeting with stakeholders to have the momentum and engagement of the stakeholders. ▪ Dedicated SPOC should be appointed who will engage the students.
Corporate	▪ The Industry SPOC leave the job ▪ Industry closes the operations ▪ Industry not meeting the commitment ▪ Safety and rights of the students ▪ Industry hit by financial crisis, sold out etc. ▪ Industry stops looking at value in the program	▪ Due diligence during selection of the Industry. ▪ Define the process and a detailed sign the agreement with the corporate. ▪ The agreement should detail out the pedagogy and outcome based time bound learning.
University	▪ Minimizes miscommunication within the student's post program completion on their Job security. ▪ Content development and keep the content upto date and future job roles	▪ Due diligence at every step
Training	▪ Acceptability of the program by students, Industry and other stakeholders. ▪ Safeguard the rights of students ▪ Engagement and communication with all stakeholders ▪ Selection of right sectors and Job roles.	▪ Due diligence at every step

	▪ Curriculum, Content and courseware development ▪ Training of Trainer and Assessors	

Recommendation

1. The Industry integrated model should be adopted for application.
2. In the selected sectors and Job roles, a pilot project should be launched with the help of selected Industries.
3. The financial implication should be understood and should be catered in the University Budget.
4. The detailed deliver mechanism should be designed and agreement with pedagogy should be with Industry should be signed

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