School IT Program - CURRICULUM

High Level Design

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1. Introduction

India has amongst the largest student populations in the world (over 230 million enrolled in schooling and higher education) and a low literacy rate of 65%. The Gross Enrollment Ratio (GER) in higher education in India (percent of relevant age group enrolled in higher education) is estimated at 11%. Many students do not have reach to higher education and are not ready for work skills at the high growth industries. The Indian industries today continue to face a growing gap in maintaining a skilled and educated manpower which is employable.

The ten high growth industries / sectors in India are IT-ITES, telecom, healthcare & pharmaceuticals, tourism & hospitality, banking & finance, engineering goods, real estate & construction, retail & consumer goods, automotive and aviation & airlines. The future employment demand for these industries is estimated at 5 million and 6.5 million by 2015 and 2020 respectively.

Wadhwani Foundation envisions to create work skill ready workforce for these industries and contribute in changing the lives of the millions of students who do not get an exposure to good education and skill development.

2. Training Needs Analysis

Assuming the entry-level jobs in all the above sectors, we analyze what competencies will be needed to groom an unexposed secondary school student to become job ready. The following high level input and output profile is what we need to build towards:

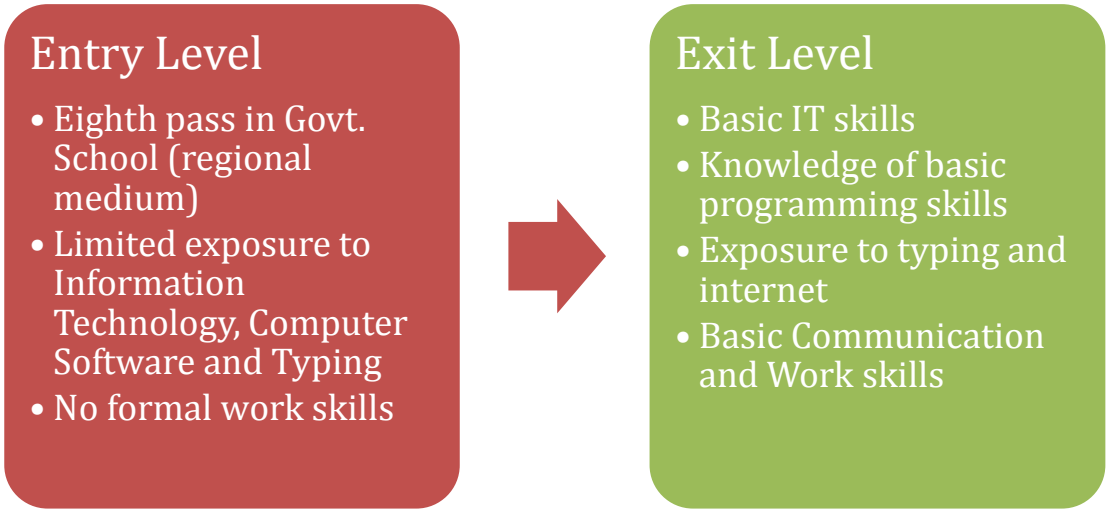


Fig 1.1

3. High Level Curriculum Design

Based upon the above competencies, the following topics and hours of instructional coursework will be deployed. Each lesson will drive towards building key knowledge outcomes identified for each, as parameters of evaluation of learning effectiveness.
The rough guide for the courseware is:

Modules	Competency Based Curriculum, Level 1, Basic (Hrs)	Competency Based Curriculum, Level 2, Intermediate (Hrs)	Competency Based Curriculum, Level 3, Advanced (Hrs)	Competency Based Curriculum, Level 4 (Hrs)	Total (Hrs)
Functional English	20	10	15	20	**65**
Fundamentals of Computers	10	--	--	--	**10**
Mastering Typing	15	--	--	--	**15**
Word Processor	20	10	15	20	**65**
Spreadsheet	25	10	15	20	**70**
Digital Presentation	15	10	15	20	**60**
Email Messaging	10	10	15	30	**65**
Web Applications	--	10 (basic)	--	--	**10**
Database Development	--	10 (basic)	--	--	**10**
Digital Literacy	--	--	15	--	**15**
Computer Networks	--	--	20 (basic)	--	**20**
Web Designing - Part 1	--	--	20 (basic)	--	**20**
Web Designing - Part 2	--	--	20 (basic)	30	**50**
Total	**115**	**70**	**150**	**140**	**475**

Fig 1.2

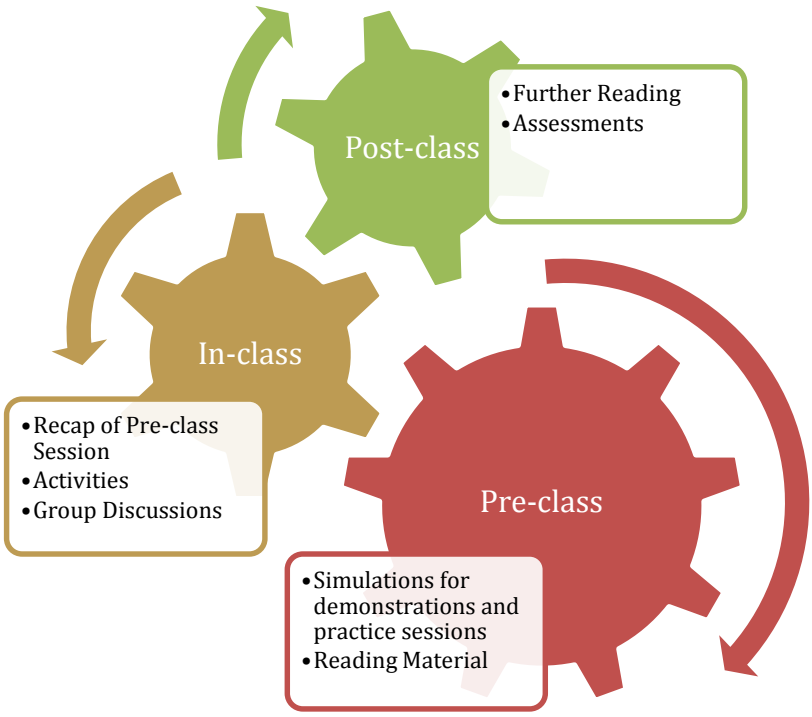
4. Pedagogical Approach

The key objective of this curriculum is to promote learning through a learner-centric approach. Learning through peers and practicing the procedure till mastery is achieved, in a safe, simulated environment are also some of the highlights of the pedagogy used.

The approach in designing every lesson is:

- Hybrid approach which can run as a Flipped Classroom – a blended learning approach where students first study material before class to familiarize themselves with the topic and then spend the in-class time on experiential activities.
    - If the students do not have access to computers or internet at home, this can be done in labs on their own or in the class itself as a group with minimal teacher guidance
- Modular – Learning sessions do not extend beyond an hour, so as to not overwhelm the learner with too much information.
- Real-life application – The modules focus on teaching how-to techniques with emphasis on applying techniques they learn to their own life situations.
- Simulations – for demonstrating and practicing the usage of various computer software tools
- Activity based – All classroom activities are based on peer-learning methods to increase student engagement and motivation.
- Teacher as a facilitator – Trainers will facilitate the activities, ensure maximum participation and encourage learners with coaching and feedback.

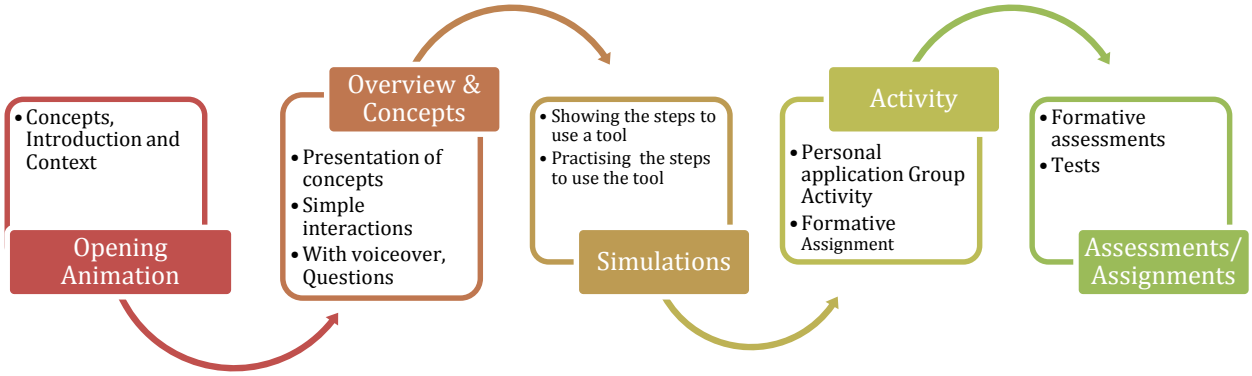
A typical flow of a lesson would be along the lines below:



We attempt to engage and instruct the students through the following lesson flow:

1. Introduce the concept and importance
    - Describe the importance of using computer software for various transactions
    - We try to create engaging content – less text, more images, interactivity – like click to reveal, drag and drop, etc. here
2. Show the procedure with a detailed description
    - How To – with description of steps
    - Reinforced – by simulation showing the steps to use the tool
    - Assess learner's knowledge by assisting them practice the steps in a practice environment
3. Learn by doing (in a group) – The simulation is followed by an group activity, where the students practice the steps – one volunteer at a time, with /her peers observing and giving constructive feedback on rights and wrongs
4. This is followed by formative assessments, which are practical

The classroom session will run along the lines of:



Materials Provided:
This will include:

1. **Facilitator Profile:** eLearning Lessons (for Pre-, In- and Post-class sessions) as well as online formative assessments
2. Student Handbook – covering the content presented
3. Facilitator Guide –tips for facilitation and further reading

The lessons could be facilitated by teachers or vocational trainers who are good subject matter experts. The ideal profile would be:

- Industry exposure or experience in the workplace in all sectors and industries
- Good hands-on practice
- Good communication skills
- Patient and motivating

5. Acknowledgements

We acknowledge our partner, Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) for the content and support provided by them.