Graduate Programme in India: A Brief Outlook on Master's Programme Focusing Inter-Disciplinary Needs

When one attempts to capture the existing behavior of Graduate programs, it becomes necessary to revisit basic understanding of terms, which at times hold the key to realize our desire towards constant improvement. According to the Oxford dictionary 'Discipline' (academic) is defined as *"a branch of knowledge, typically one studies in higher education"*.[1] Thus we can infer that, any discipline is a subset of larger body of knowledge. The purpose of any knowledge is fulfilled when it is translated into a real life product or service – application. This is made possible when a part of knowledge works in association with a plethora of complimentary parts. Therefore, by virtue of it, the solutions are all inter-disciplinary, say in the form of products or services to real life issues, which inter-alia includes waste management to satellite making.

This inevitably requires 'group of experts working together' towards a common goal. Current graduate programs have been successful in developing experts in a given discipline at Master's level and beyond.[23] However, 'working together' is what seems to be not much emphasized. This is where inter-disciplinary skills set in. Current graduate programs do not have provisions, in their course structure, to impart any necessary exposure to inter-disciplinary education.

Inter-disciplinary skills not necessarily mean mere technical knowledge of academic disciplines outside one's own discipline. Very often mutual appreciation of cross-disciplines is what is required to transform the knowledge into a product. This experiential appreciation can be developed when one makes a bold attempt to collaborate his/her master's project/dissertation with a person not skilled in the art.

Figure 1 depicts an existing/current and proposed graduate program structures. Most of the current two year graduate programs at master's level have courses imparting in-depth technical skills in the first year—very essential for a student to grow vertically in his/her chosen discipline. This is

followed by a project/dissertation in the second year where the student is expected to apply in-depth technical skills acquired in realizing a practical product. Such a master thesis no doubt imparts the necessary practical skills to the student within his/her discipline.

On the other hand the proposed structure has a slight modification in the master thesis structure. It can be split into two projects. One, similar to the domain project (like existing project requirements) and the second is application project. In the application project the student will be expected to extend his/her domain product/research findings and apply it in a real life situation. Table 1 illustrates the idea by explicitly considering different disciplines. The timings and scorings between domain and application projects can be suitably distributed by the faculty/university. The overall idea is it expose the students experientially in appreciating cross-disciplines. With appreciation comes the desire to collaborate. Only when parts willingly come together complimenting each other, the 'whole' can take shape.
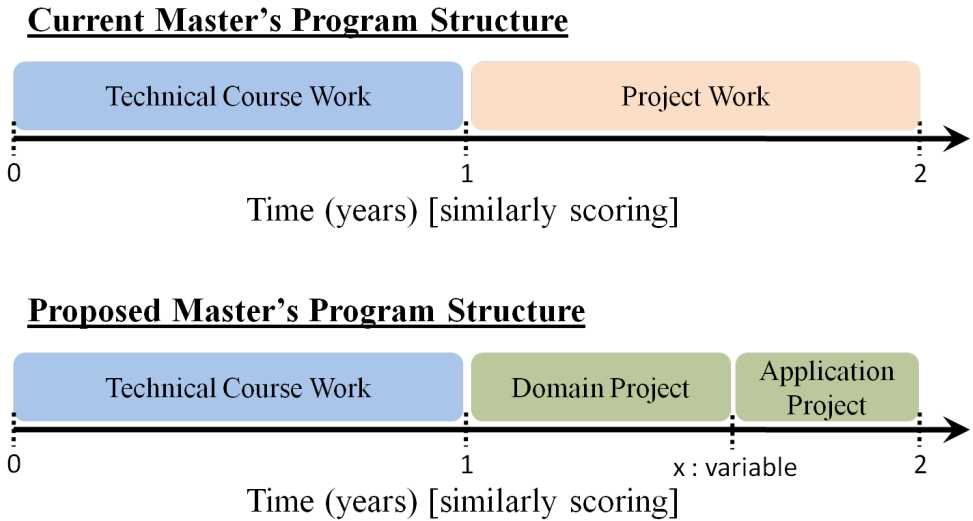
Current Master's Program Structure

Technical Course Work	Project Work

0   1   2

Time (years) [similarly scoring]

Proposed Master's Program Structure

Technical Course Work	Domain Project	Application Project

0   1   x : variable   2

Time (years) [similarly scoring]

Figure 1: Master's Program Structure: Current vs. Proposed

Discipline	Domain Project	Application Project
Engineering / Science (say RF / Microwaves)	Designing Antenna with improved efficiency	Use it with a radio and realize animal tracking system.
Public Policy (say Politics)	A research observation using new methodologies	Apply the observations in small scale units (say Panchayats)
Economics (say Economist)	A new theory to better understand industry economics	Share and apply the theory in a small scale industry
Humanities (say Music)	Realizing original and unique music	Working towards using it in a theatre show

Table 1: Proposed Master's Program Structure

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[1] https://en.oxforddictionaries.com/definition/discipline
[2] https://www.aicte-india.org/modelsyllabus.php
[3] http://www.ugc.ac.in/page/Model-Curriculum.aspx