Synthesis of knowledge and Interdisciplinary Research in Higher Education-Indian Scenario

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Abstract:

In India, very few institutions provide an interdisciplinary research scope to the aspirants. As we are living in the globalised backdrop where standalone knowledge may not have credit as the diverse disciplines together may serve it. Synthesis of the knowledge with interdisciplinary efforts can bring a change for better society. Higher education institutions in India still lag behind in imparting a platform for interdisciplinary research which has ample scope for knowledge synthesis. This paper is an attempt to explore the possibilities in higher education institutions in India. If it is strictly implemented, the scholars may have wider scope to engage in exchange of ideas with unbelievable cohort of researchers from all sorts of disciplines, backgrounds and research approaches. The entire excise may prove fruitful for bringing solutions and for the sustainable development of the country. With the help of knowledge synthesis in interdisciplinary research the funds for research and activities for research and developments can be channelized to the concentrated efforts for the realistic solutions of the problems faced by the society.

Keyterms: *knowledge synthesis, interdisciplinary research*

1. Introduction

We are living in the globalised backdrop where standalone knowledge may not have credit as the diverse disciplines together may serve it. Synthesis of the knowledge with interdisciplinary efforts can bring a change for better society. The Knowledge is a familiarity, awareness or understanding of someone or something, such as facts, information, descriptions, or skills, which is acquired through experience or education by perceiving, discovering, or learning.

Knowledge can refer to a notional or realistic understanding of a topic. It can be hidden (as with realistic skill or know-how) or overt (as with the speculative understanding of an issue); it can be more or less formal or systematic (As cited in Oxford Dictionary). In philosophy, the study of knowledge is called epistemology; the philosopher Plato famously defined knowledge as "justified true belief", though "well-justified true belief" is more complete as it accounts for the Greater problems. However, several definitions of knowledge and theories to explain it exist.

Knowledge acquisition involves complex cognitive processes: perception, communication, and reasoning; while knowledge is also said to be related to the capacity of acknowledgment in human beings (Stanley Cavell, 2002).

As a working definition of interdisciplinary research, we can define it as, 'Interdisciplinary research is a mode of research by teams or persons that put together information, data, techniques, equipments, perspectives, concepts, and theories from two or more disciplines or bodies of specialised knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.'

Aram (2004) elaborates the concept that disciplines are "thoughts domains- quasi-stable, partially integrated, semi-autonomous intellectual conveniences- consisting problems, theories, and methods of investigations."

2. Knowledge synthesis

Knowledge synthesis is a social as well as an individual process. Sharing tacit knowledge requires individuals to share their personal beliefs about a situation with others. At that point of sharing, justification becomes public. Each individual is faced with the tremendous challenge of justifying his or her beliefs in front of others– and it is this need for justification, explanation, persuasion and human connection that makes knowledge synthesis a highly fragile process. To bring personal knowledge into a social context, within which it can be amplified or further synthesized, it is necessary to have a field that provides a place in which individual perspectives are articulated, and conflicts are resolved in the formation of higher- level concepts.

In an archetypal institute, the ground for communication is often provided in the structure of a self-directed, independent work team made of members from diverse serviceable units. It is a crucial issue for an institute to choose at what time and how to institute such a team of communication in which persons can congregate and cooperate. This group activates institute knowledge synthesis primarily in the course of numerous run. It assists initially for the establishing the reciprocal conviction among members, and speeds up formation of a hidden outlook shared by members as tacit knowledge. The chief ingredient of the process is input of the experience among members. Focal unspoken viewpoint is conceptualized through unremitting discussion among members. The central approach of knowledge transfer at this juncture is externalization. Tacit field-specific perspectives are transformed into explicit notions that can be shared beyond the boundary of the team. Dialogue directly facilitates this process by activating externalization at the individual levels. It is a process in which one builds concepts in cooperation with others. It provides the opportunity for one's hypothesis or assumption to be tested.

As Markova and Foppa (1990) argue, social intercourse is one of the most powerful media for verifying one's own ideas. As such, participants in the dialogue can engage in the mutual co-development of ideas. Next comes the step of justification, which is the process of convergence and screening, which determines the extent to which the knowledge created within the team is truly worthwhile for the organization. Typically, an individual justifies the truthfulness of his or her beliefs based on observations of the situation; these observations, in turn, depend on a unique viewpoint, personal sensibility, and individual experience. When someone creates knowledge, he or she makes sense out of a new situation by holding justified beliefs and committing to them. Under this definition, knowledge is a construction of reality rather than something that is true in any abstract or universal way. The creation of knowledge is not simply a compilation of facts but a uniquely human process that cannot be reduced or easily replicated. It can involve feelings and belief systems of which we may not even be conscious. Nevertheless, justification must involve the evaluation standards for judging truthfulness. There might also be value premises that transcend factual or pragmatic considerations. The inducements to initiate a convergence of knowledge may be multiple and qualitative rather than simple and quantitative standards. Finally, we arrive at the stage of cross-levelling knowledge. During this stage, the concept that has been created and justified is integrated into the knowledge base of the organization, which comprises a whole network of organizational knowledge.

The specific objectives of this funding opportunity are to:
- Illustrate the state of awareness about international best practices in leveraging public investments in R&D in the higher education sector in order to inspire innovation;
- activate knowledge about innovation and innovation systems between the academic and public policy sectors; and

- form the basis of dialogue between academic researchers, and science and innovation supported knowledge syntheses should examine the experiences of various national and sub-national funders and performers.
- Syntheses should focus on what the emerging best practices are in one or more of the following areas:
- creating and sustaining effective networks, association and linkages of higher education researchers with industry, communities, governments and others;
- underpinning interdisciplinary research for greater improvement and potential;
- the transfer of knowledge from higher education institutions to industry, including through technology transfer; commercialization; management of intellectual property agreements; and the mobility of people trained in research; and
- Stimulating and supporting knowledge receptor capacity in industry, including the role of government-funded or private sector intermediaries in identifying opportunities for university research to support firm and market objectives and needs.

India has improved its ranking in the 2019 Global Innovation Index by five places to 52nd from 57th position in 2018. It is still a big challenge in creating an interdisciplinary research environment in Indian higher education institutions. The barriers before the HEIs are linguistic, geographical, infrastructural, human resources, willingness and capacity to work collaboratively. A lack of shared mental models, common language and assumptions and even the desire to collaborate may prove problematic, particularly when participants in a collaborative team have a particularly strong affiliation to their own groups. (Jacobs, 2010). A very few higher education institutions have made the scope of interdisciplinary research available to the interested candidates who are keen to pursue their research by synthesising the knowledge for the sustainable development of the society. If we name a few, they are IITs in India. But the system is not fully ready with all the amenities and human resources which entail better execution and outcome.

3. Summing Up
Higher education institutions in India still lag behind in imparting a platform for interdisciplinary research which has ample scope for knowledge synthesis. If it is strictly implemented, the scholars may have wider scope to engage in exchange of ideas with unbelievable cohort of researchers from all sorts of disciplines, backgrounds and research approaches. The entire excise may prove fruitful for bringing solutions and for the sustainable development of the country. With the help of knowledge synthesis in interdisciplinary research the funds for research and activities for research and developments should be channelized to the concentrated efforts for the realistic solutions of the problems faced by the society. If the country wants to cull the fruits of outcome through interdisciplinary research it must ensure consistent milieu for the researchers and remove the barriers in way of promotion and execution of interdisciplinary research.

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