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Going beyond the discipline

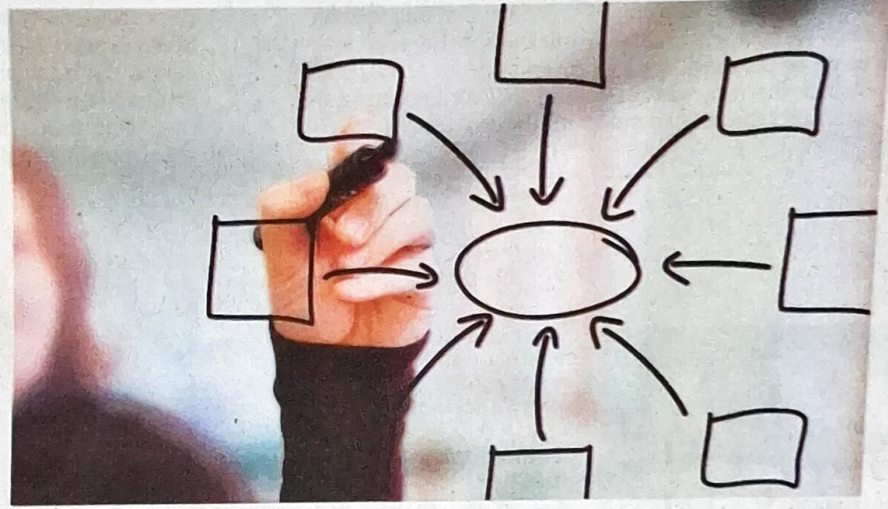
How can higher education institutes promote trans-disciplinary research in India?

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Global challenges and problems, like climate change, do not respect disciplines or boundaries. They are universal problems that impact all. Therefore, solutions cannot be addressed by researchers working in silos. They require a holistic approach involving the management and engineering disciplines, legal researchers, architects and designers. In primary school, we are taught only Maths, English and Science. As we progress to middle school, Science is differentiated into Biology, Physics and Chemistry.

As we go further up, Biology is further split into Zoology, Botany, and Medical Science; Chemistry is divided into Organic Chemistry, Inorganic Chemistry, and Physical Chemistry. Physics branches into Mechanics, Optics, Thermodynamics, Electromagnetism, and more. However, as we get into higher education and more evolved research practices, these specialisations and boundaries tend to converge into human and social issues that impact life, lifestyle and living environments.

Real-life problems are agnostic of the discipline. Rather, they are transdisciplinary. Thus, the solutions, too, need to transcend disciplinary boundaries. At times, the veil of the discipline be-



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comes an impediment for researchers to be able to view the problems in their totality and hinders their abilities to solve larger, more impactful problems. The question now is what can institutions and universities do to promote such a research mindset?

Collaborative approach
Often, with institutions running only one programme, it becomes difficult to get the diversity required to conduct transdisciplinary research. This is why NEP 2020 emphasises building multidisciplinary research-based universities.

Single-discipline institutions should collaborate with like-minded organisations and contribute to the diverse perspectives that flow during collaborations. Holding joint conferences, symposia, and colloquia and nurturing and encour-

aging scholars around integrative research practices can help build such practices and align thinking and research-driven action.

For multidisciplinary universities, the first step would be to provide the physical space and infrastructure for people from different areas to mingle. The spaces should not be designed in such a way that faculty/researchers from different disciplines are on separate floors/buildings. Providing common collaborative spaces for them to link up not only promotes bonding but could also offer opportunities and a fertile ground for them to collaborate on varied projects.

Not just physical spaces, but having professors teach concurrently in different schools can help them gain a transdisciplinary perspective and promote research questions amalgamating disciplines.

Centres of Excellence

Creating formal Centres of Excellence aligning with the institutions' vision defines the direction in which research efforts can be channelised. For example, setting up a Centre for Law, Regulation and Technology; Centre for Inclusive Innovation; Centre for Sustainability Research and Advocacy, and Center for Financial Markets, all of which integrate various domains and give researchers a systemic approach to work on.

Providing seed money/grants for transdisciplinary projects is another way to promote convergence in research endeavours. For example, researchers from Economics, Management and Mathematics can come together to design a sustainability index, measuring and indicating the level of development in each state on various Sustaina-

ble Development Goals (SDGs). People from diverse domains could work together on augmenting the income of the village around their universities.

Conducting baseline assessments, working with small and marginal farmers on agricultural and soil quality monitoring, maintaining the water level in villages, initiating projects to manage the waste better, and providing electricity by installing solar panels would require multiple disciplines to work together.

Getting money and a mandate from the institutions' management encourages such initiatives. Special recognition for research papers co-authored and published by scholars from varied disciplines would also encourage transdisciplinary research. Ph.D and Master's programmes could be specially designed to be transdisciplinary.

Higher Education Institutes have a significant role to play in promoting transdisciplinary research. This may be done by, first, having a clear intention to do so. Second, by taking initiatives such as sponsoring integrated projects, creating centres of excellence that promote such research, and designing physical spaces that pose no impediments for possibilities of transdisciplinary research.

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