Editorial

Beyond the Ph.D. Thesis: The conventional Ph.D. system evaluates scholars through a comprehensive thesis demonstrating original research, critical analysis, and contribution to knowledge, followed by external evaluation and an oral defence. This approach remains fundamental to academic research. However, in engineering and technology, significant innovations may also emerge through industrial solutions, technological developments, patents, and practical applications. Recognizing such achievements could strengthen the connection between doctoral education and real-world engineering challenges.

China has introduced an alternative route for professional engineering doctoral candidates, permitting them to seek a degree through approved practice-oriented achievements instead of the conventional dissertation. This initiative aims to strengthen university-industry collaboration and promote technological innovation. Eligible achievements may include innovative products, engineering designs, process improvements, and solutions to complex industrial problems. The approach recognizes that substantial engineering contributions can emerge from laboratories, industries, and major infrastructure projects.

Importantly, this model does not eliminate research or documentation. Candidates must demonstrate originality, individual contribution, practical significance, and innovation. Their applications require tangible deliverables, a comprehensive written report, expert assessment, and a formal defence. This provides a valuable lesson for India: doctoral assessment can recognize diverse forms of achievement while maintaining rigorous academic standards. However, China's framework specifically concerns professional engineering doctorates and should not be interpreted as abolishing conventional Ph.D. requirements.

India could explore a regulated practice-based pathway alongside the conventional Ph.D., subject to appropriate regulatory approval. Best practices should include transparent eligibility criteria, independent academic and industry evaluation, verification of practical outcomes, plagiarism screening, and clear intellectual-property safeguards. Publication of original research papers in highly reputed, peer-reviewed journals should also be compulsory, with genuine scholarly contribution prioritized over publication numbers. Such publications invite international scrutiny, constructive criticism, and opportunities to improve research quality. A carefully regulated framework could promote innovation, industry collaboration, and technology transfer without compromising doctoral credibility.

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