Strategic Manoeuvring of Technology into Education for Sustainable Employment

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1. Introduction

Technology innovations enduringly throwing challenges not only for new recruits, it even equally impacting veterans. Fresh graduates' employability is now being defied on the grounds of indigent digital skills. At present times, digital savvy graduates are the priority resources for MSME which are progressing towards digitalisation. Of which, activities of all the domains right from manufacturing to sales are now part of their respective information systems dealing with knowledge bases to attain greater productivity.

This empirical study with supportive evidence identified remarkable facts that, technological skills essential for graduate employment weren't engrossed much in the curriculum; the real challenge for the fresh graduates is to identify the required digital skills and means of acquiring the same. There wasn't any partnership found between Institutions and Industry to add technology dimension to the curriculum. It was also found that university affiliated institutions facing limitations of upgradation as they need to adhere to respective university syllabus.

Explorations of recent studies established how institutions tackle employability in students in a number of ways, including through for example campus recruitment training (CRT) and employability modules, careers services, work-placements and experiences, work-based mentors, apprenticeships, volunteering, graduate internships, entrepreneurship We know there is already some excellent practice, particularly in vocational and professional disciplines (e.g. medicine, finance and premier engineering institutions). Here, notions of what it is to be professional are embedded in the curriculum, but for other disciplines this is less apparent. Few uses technology really effectively in an integrated way, embedded in the curriculum, to support student employability - although some are exploring this.

This paper basically focuses on how technology can be an enabler to the development of employability skills in a number of ways. E-Profiles can be used to ensure that opportunities are integrated throughout the curriculum in a scaffolded way for learners to reflect, plan, articulate and showcase their knowledge and skills. Technology can enable assessments to be made more authentic, more closely aligned to professional contexts. Learners can be given opportunities to engage with their feedback, and have regular opportunities for self, peer and tutor review in order to develop as self-aware, independent learners.

There is evidence to show that empowering students as agents of change can be a key opportunity for students to develop a range of employability skills. However, few colleges and universities are using technology to best effect to support an integrated approach to the development of employability skills notwithstanding the clear benefits technology offers.

https://doi.org/10.5281/zenodo.7526368

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2. Literature Review

"Technology will not replace great teachers but technology in the hands of great teachers can be transformational" – George Couros.

India is an immense country with a wide range of cultures, languages, and histories, as well as a diverse educational system. Indian education is one of the world's largest and oldest educational systems. The formal education in India still constitutes of a traditional model.

The Indian policymakers have tried their best for developing Information and Communication Technology (ICT) as a vehicle for promoting education since the use of satellite in the early 1970s (Ramesh, 2020) and since then, India has seen plenty of efforts aimed at promoting ICT and its use in education, both in the public and commercial sectors.

Under the National Education Policy 2020, both school and higher education sectors are paving the path for large-scale and transformative reforms. The policy is based on the foundation of the five pillars such as Access, Gisa George, Johnsy Mary Johnson, Dr. Ravi Chandra Reddy (2013) Equity, Quality, Affordability, and Accountability which is also aligned with the Agenda for Sustainable Development 2030.

According to a recent study published in ("Education Industry Analysis - Indian Education Sector | IBEF," 2021) by the year 2025, the education sector in India is anticipated to rise to Rs 2,44,824 crore (US$ 35.03 billion). India is a country where there are over 250 million school-going students and the rise in internet dispersion is expected to help in the growth of the education segment. The number of colleges in India reached 39,931 in FY19. The number of universities in India reached 967 in FY21 (until December2020). India had 37.4 million students enrolled in higher education in 2018-19. Gross Enrolment Ratio in higher education reached 26.3% in FY19.

Due to the recent unprecedented changes owing to the pandemic the higher education institutes in India are bringing in a lot of online programs/courses for the students to keep them engaged and continue with the learning. In India, the online education market is forecast to reach ~US$ 11.6 billion by 2026. In India, the EdTech market is expected to reach ~US$ 3.5 billion by 2022("Education Industry Analysis - Indian Education Sector | IBEF," 2021).

The introduction of ICT in general and education, in particular, has enabled the teachers as well as the learners to satisfy their immediate teaching and learning-related needs. To substantiate this argument (Yashothapriya, 2010) has stated that various devices being applied under ICT are enabling the learner to immediately store, retrieve, manipulate and receive information according to one's needs. Pointing out the vast area and activities included in the term ICT, (Roy 2015) stated, "ICTs are electronic collection, editing, storage, distribution and presentation of information."

3. Objectives of the Study

This paper will provide an initial exploration of the role of technology in supporting the development of student employability skills. It aims to provide an overview of the key skills employers are looking for, and the opportunities offered by universities and colleges to provide those skills. It also aims to explore and articulate the role of technology in enhancing the development of student employability, and make recommendations that can best support institutions moving forwards.

4. Methodology

The significance of digital skills pertaining to employability is profoundly studied by gathering inputs from various industries including academic institutions. A questionnaire was circulated using google forms and digital response for the same was collected focusing on:

- Skills needed and skills gaps across all sectors
- Employability/self-employability opportunities
- Challenges in preparing students for the work-place
- Embedding employability skills development in the curriculum
- How technology supports employability opportunities including benefits/challenges

5. Digital Transformation

- Change is the new norm in many organizations due to seismic shifts in the level of competition, customers' expectations, the global political outlook and fast-paced technological change. The major disruptive forces behind the change in the business environment and their impacts on the role of the finance function are globalization, rapid technology deployment, risk and regulation, consumer empowerment, demographics and workforce changes, and broader stakeholder demands.

- Globalization describes the increasing trend for, and ease with which, organizations and individuals communicate, interact, and trade, not just locally and nationally, but across the world.

- Hence, working professionals have needed to quickly adapt to the demands of global trade; the new opportunities, risks, and challenges it presents; and the increasing demand for transparent, tailored, detailed business information as required by stakeholders.

- Rapid advancement in technology over the last two decades has facilitated the globalization process, as well as driving vast changes in the way in which organizations operate. Both the 'shop floor' of operations, and support functions have seen radical transformation in the way things can be done, which has led to roles and responsibilities being revolutionized and value and performance being driven in a completely new way.

- Relationships have been transformed at all levels and can be global and virtual as well as local and in person. The speed at which we work and interact has been driven upwards by technology. The expectation for instant response has meant that people are 'switched on' 24-7 — able to trade, able to interact, and able to work outside of traditional office hours and confines. If an organization wants to remain competitive it must be able to react, respond to, and embrace these changes. It has to be 'agile'.

The research undertaken as part of the study has identified a complex landscape of how student employability is developed across the skills sectors. There is variation in approaches by institutions who have different views on what maturity could look like from the perspectives of the student employability journey i.e., employability as a continuous and lifelong journey, what an employable student would look like and how a mature institution embeds development of student employability in an orchestrated and holistic approach. This study embraced mixed bag of institutional approaches. There are some isolated pockets of good practice with minimal overall direction except for e.g., defining some broad and generic graduate attributes, for example.

The vast majority of studies conclude that authentic learning or learning by doing is highly effective in developing competency and 'work ready' skills. This is particularly in the area of vocational and professional skills such as communication, collaboration, team-working, problem solving and self-management – and in developing softer attributes such as confidence and motivation. This point is clearly

https://doi.org/10.5281/zenodo.7526368

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made in the Higher Education Academy Report Pedagogy for employability (Pegg, 2012) and can be seen in the rapid growth of apprenticeships.

Literature that was reviewed as part of this study not only re-enforce this point but go further to highlight that where the authentic learning experiences are real i.e., students are learning from working on genuine employer issues and problems, which provides a powerful motivation for both students and staff. However, it must be emphasised that the success of the learning via such experiences is not necessarily related to the success of the issue on which the students work. Students can learn from both project successes and failures.

The study has identified some highly creative approaches to develop student employability. For example, the use of digital story-telling to support creative problem solving alongside online simulations and games at Birmingham City University Students with learning difficulties at the Portland College make good use of 'video selfies' showing competence in a procedure that might otherwise be challenging for them to articulate in a job interview. The University of Greenwich's Virtual Law Clinic is another example of a highly creative approach to developing student employability via engagement between students, staff and pro bono lawyers in supporting members of the local community.

As with technology-enhanced learning in general, institutions generally fail to capitalise on such innovations by rolling them out across the institution. They seem to remain as isolated pockets of good practice.

The reasons for this are explored in this study, how do you change the learning landscape? Challenges in the strategic use of technology to support the student experience (Chatterton, 2015). Embedding employability / attributes into curricula and assessment may be "ideal". It is generally accepted that embedding employability into curricula represents a "maturity characteristic, and a key element of this is embedding it into learning outcomes, attributes and assessment.

However, there are a number of challenges were identified, curriculum design structures and in particular modular based programmes can pose barriers to lifelong employability. This is because employability related learning outcomes typically need to be defined (and assessed) at the programme level (not the module level).

Furthermore, it is not at all uncommon for programmes to have minimal assessment for learning approaches in place. These support formative and longitudinal programme assessment approaches linked to programme learning outcomes, which embrace a more holistic view of student progression and development.

Linked to this are issues associated with the traditional virtual learning environment or VLE, which is typically structured around modular curricula. It often does not simply and effectively support learner-centred approaches to formative and longitudinal assessment and feedback. Nor are learners regularly challenged to think about and articulate their learning experiences, achievements and progression as they unfold.

Academics do not always possess employability capabilities themselves and are therefore not always in a position to provide effective student direction and support. This is less so with vocational tutors who are drawn primarily from their vocational skills and experience background. Institutions seek to address this issue through the appointment of personal tutors (or mentors) for students who guide them throughout their

https://doi.org/10.5281/zenodo.7526368

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programmes. However, this approach is not always fully institutionally supported through, for example, staff professional development and appropriate allocation of time in academic work-loads.

In many institutions, there appears to be a lack of joined up approaches between academic departments and corporate careers/employability services in simplistic terms, careers departments typically focus on supporting students in preparing for and seeking jobs after graduation, typically at an end-of-programme stage. However, the more mature institutions regard employability as an attribute that should be owned and developed in a student right from the start of a programme.

There is not much evidence of joined-up approaches between such corporate services departments and academic departments. Careers services may see success as helping a student find a path into a job (which supports employment statistics), but this does not always equate with developing a range of employability skills and finding appropriate graduate level jobs. An interesting case study of where this is changing is the University of Southampton's Mission Employable initiative where the careers department established the need for students to start considering, preparing and applying for jobs much earlier than in the past.

The further study focused on understanding to what extend the ICT plays a major role in educational institutions, how the various factors of students and teachers for integrating ICT in Teaching-Learning process has enhanced the quality of the same. It will help to support policy makers, management and also teachers in understanding ICT tools effectively. It will also provide an opportunity to compare the views of teachers, students and management for the use of ICT and whether it has improved the experiential learning for them.

6. Conclusion

There is no doubt that with the introduction of ICT in education, it has paved a wave of technology rich learning environment. ICT helps in providing a clear and concrete concept of the content to the learners and make it ease and understandable in less effort and time (Kundu, 2018). With the present scenario the traditional method of teaching-learning is not sufficient for enhancement of knowledge for both students as well as teachers.

Digital learning uses technology to strengthen the student's learning experience with a mix of tools and practices, including, among others, online and formative assessment; an increase in the focus and quality of teaching resources and time; online content and courses; and applications of technology in the course curricula.

Furthermore, it has also been observed that the adoption of ICT or any online learning tools are still stagnant or have less impact in India with compared to that of the developed countries. Due to Covid 19 pandemic all the educational institutions were forced to go for online learning which was difficult in the initial phase due to the less exposure to technology and tools. Information and communication technology are vital facet in today's higher education.

Finally, digital learning promotes deeper learning allowing personalized competencies development of the students with deeper learning possibilities and extended access to information and knowledge. From the study ICT is more prevalent in the urban areas rather than the rural areas owing to the less experience and reach of technology in those areas. In order for all the educational institutes to make use of ICT in teaching

https://doi.org/10.5281/zenodo.7526368

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learning process the stakeholders have to instil an interest and bring new technologies and modes to enhance the user experience.

References

1. Agarwal, D., & Ahuja, S. (2013). Attitude of studentteachers towards the use of ICT and its impact on their academic achievement. Indian Journal of Applied Research, 3(7), 186-187. https://doi.org/10.15373/2249555X/JULY2013/57

2. Arulchelvan, S. (2012). The Effectiveness of E-LMS on Performance of Indian Rural Schools: A Case from a Developing Country. Contemporary Educational Technology, 3(1), 1–16. https://doi.org/10.30935/cedtech/6064

3. Azimi, H. M. (2014). E-Learning Needs Assessment among Students in the Colleges of Education. The Malaysian Online Journal of Educational Technology, 2(1), 11–22.

4. Babu, G. S., &Srivedi, K. (2018). Importance of E-Learning in Higher Education : A Study. International of Research Culture Society, 2(5), 84–88.

5. Bansal, S. (2017, July 13). How India's ed-tech sector can grow and the challenges it must overcome | VCCircle. Retrieved June 25, 2021. https://www.vccircle.com/the-present-and-future-of-indias-online-education-industry/

6. Dellit, J. (2002). Using ICT for Quality in Teaching- Learning Evaluation Processes. Using ICT for Teaching, Learning and Effective Management, 56–66.

7. Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. Journal of Educational Technology Systems, 49(1), 5–22. https://doi.org/10.1177/0047239520934018

8. Dubey, S., &Piroska, B. (2019). Exploration of Factors Affecting Learners' Motivation in E-learning. International Journal of Scientific Research in Computer Science, Engineering and Information Technology, (June), 1269–1275. https://doi.org/10.32628/cseit1952307

9. Dulkaman, N. S. B. S. M. J., & Ali, A. M. (2016). Factors Influencing the Success of Learning Management System (Lms) on Students' Academic Performance. International Young Scholar Journals of Language, 1(I), 36–49.

10. Education Industry Analysis - Indian Education Sector | IBEF. (2021, May 25). Retrieved June 24, 2021, from India Brand Equity Foundation website: https://www.ibef.org/industry/education-presentation

11. Ghavifekr, S., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and Learning with ICT Tools: Issues and Challenges from Teachers' Perceptions. Malaysian Online Journal of Educational Technology, 4(2), 38–57.

12. Gupta, D., & Singh, G. (2014). Usage of E-Learning Tools: A Gap in Existing Teacher Education Curricula in India. I-Manager's Journal of Educational Technology, 11(1), 30–40. https://doi.org/10.26634/jet.11.1.2672

13. Islam, N., Beer, M., & Slack, F. (2015). E-Learning Challenges Faced by Academics in Higher Education: A Literature Review. Journal of Education and Training Studies, 3(5). https://doi.org/10.11114/jets.v3i5.947

14. Jha, P. N., & Shenoy, P. V. (2016). Digitization of Indian Education Process: A Hope or Hype. IOSR Journal of Business and Management, 18(10), 131–139. https://doi.org/10.9790/487x-181003131139

15. Kaur, M., & Singh, B. (2018). Teachers' attitude and beliefs towards use of ICT in teaching and learning: Perspectives from India. Proceedings of the 6th International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM 2018), 592–596. https://doi.org/10.1145/3284179.3284281

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