

## **EXPLORING INNOVATIONS AND CHALLENGES IN HIGHER EDUCATION: ADAPTING PEDAGOGICAL STRATEGIES FOR ENHANCED LEARNING OUTCOMES**

**Dr. Vinita Parashar**

Professor, College of Commerce, IPS Academy, Indore, MP

### **ABSTRACT**

This chapter explores the relationship and interrelationship between the broader issues involved in developing digital skills as a prerequisite for lifelong learning, in the context of rapid change. It highlights the importance of engaging digital citizens at an early stage of education, influencing curriculum development and education policy. Changes in learning environments and a reevaluation of student and teacher responsibilities necessitate a dynamic curriculum that is ever-evolving as part of teacher preparation and professional development programs. The new curriculum promotes knowledge acquisition, independent learning, and personalized learning methodologies.

Despite the slow development of the education system, examples show the integration of open education and learning technology in order to encourage learning by doing. Tools like OERs and A new era in higher learning is dawning thanks to MOOCs, or Massive Open Online Courses. have expanded self-learning opportunities by requiring schools and teachers to participate in managing and reviewing courses and educational plans. The government also faces the problem of providing adequate housing. A survey of universities is detailed in this article professionals in British Columbia and explores how open learning can transform practice. Using phenomenological methods and structural theory, this study demonstrates how teachers use sites, structures, and interpretive processes to support explicit learning.

Research results show that open learning and application improve learning models and should be considered as creating technology. Not just content delivery tools. Additionally, the transition from passive knowledge reception to skills development is highlighted through experiential learning, particularly Challenge-Based Learning (CBL). CBL engages faculty and students in solving real-world challenges, fostering international competencies and ensuring world-class standards. A global study across universities in Mexico, The Netherlands, Ireland, and China illustrates the successful implementation of CBL and its impact on developing higher education graduates. The study identifies obstacles in faculty transformation towards CBL, emphasizing the need for further exploration in this frontline educational development.

**Keywords:** Digital skills, lifelong learning, digital citizenship, curriculum development, educational policies, teacher education, professional development, learning environment, new

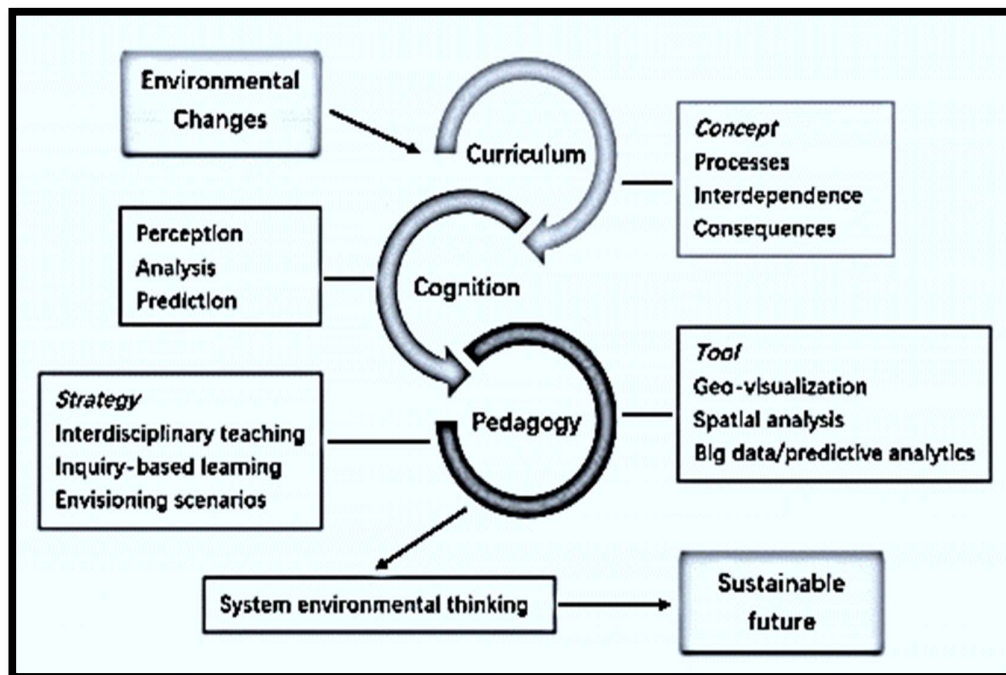
pedagogies, personalized learning, open pedagogy, educational technologies, higher education, MOOCs, OER.

## I. INTRODUCTION

In current years, the landscape of higher training has been hastily evolving, driven by technological improvements, societal needs, and the increasing recognition of diverse getting to know styles. This transformation necessitates progressive pedagogical techniques that cater to the complicated and dynamic nature of contemporary education. The combination of sustainable education, open educational resources (OER), and active learning strategies has become critical as institutions work to improve research outcomes.

The scope of these advancements and the demands that accompany them are examined in this article, with a focus on how they affect teaching, researcher collaboration, and education in general. The study concludes that keeping up with the demands of new technology and global trends requires constant innovation. The use of competency-based learning (CBL) has grown in recent years as a major technique for enhancing education and preparing students to meet the needs of a replicating economy.

Curriculum integration of sustainable development (SD) competences improves the efficacy and applicability of teaching methods. To further understand the possibilities and efficacy of these innovative teaching methods, future research should combine cross-national comparisons with longitudinal investigations. Consequently, there is room for improvement in educational outcomes.



**Figure 1. A theoretical structure for instructing on environmental change.**

Also, in an effort to prepare the next generation of workers to deal with international security challenges, there is a rising movement to include sustainability education into university curricula. The increasing dedication to sustainable development (SD) is shown by the incorporation of SD content into various HEIs, such as classrooms, research, and online collaboration. Despite significant progress, the link between teaching and the development of sustainability has not yet been explored; this highlights the need for further research and educational reform.

Teaching strategies that explore how teachers can use open learning and other innovations to improve their teaching (Paskevicius and Irvine, 2019). By analyzing qualitative data from interviews with British Columbia teachers, our goal is to enhance our comprehension of how these tactics are applied in various settings. Through this survey, we seek to identify successful practices, uncover challenges, and provide insight into future directions for higher education. In the following sections, we evaluate associated literature, present the research questions and technique, and speak the findings from our take a look at. By highlighting the experiences and views of educators, this paper contributes to the ongoing communicate on transforming better training through progressive pedagogical techniques. Our aim is to offer a framework that may guide institutions in adapting adjusted their methods of instruction to meet the changing demands of today's society and its college students, in the end enhancing getting to know effects and making ready college students for a complex and interconnected global.

## **II. LITERATURE REVIEW**

Higher education is constantly evolving, driven by technology, new teaching strategies and global thinking. New teaching strategies such as Open Education Program (OEP), Open Learning Methodology and Learning Based Learning (CBL) are being adopted to improve learning.

### **Open Educational Practices (OEP)**

In order to revolutionize knowledge, OEP makes use of open technologies and open educational resources (OER). It emphasizes a flexible, integrated learning environment and serves students as a confluence of professional knowledge. However, stringent conditions such as lack of design and privacy concerns make it difficult to evaluate the impact of OER (Camilleri).

### **Open Pedagogy**

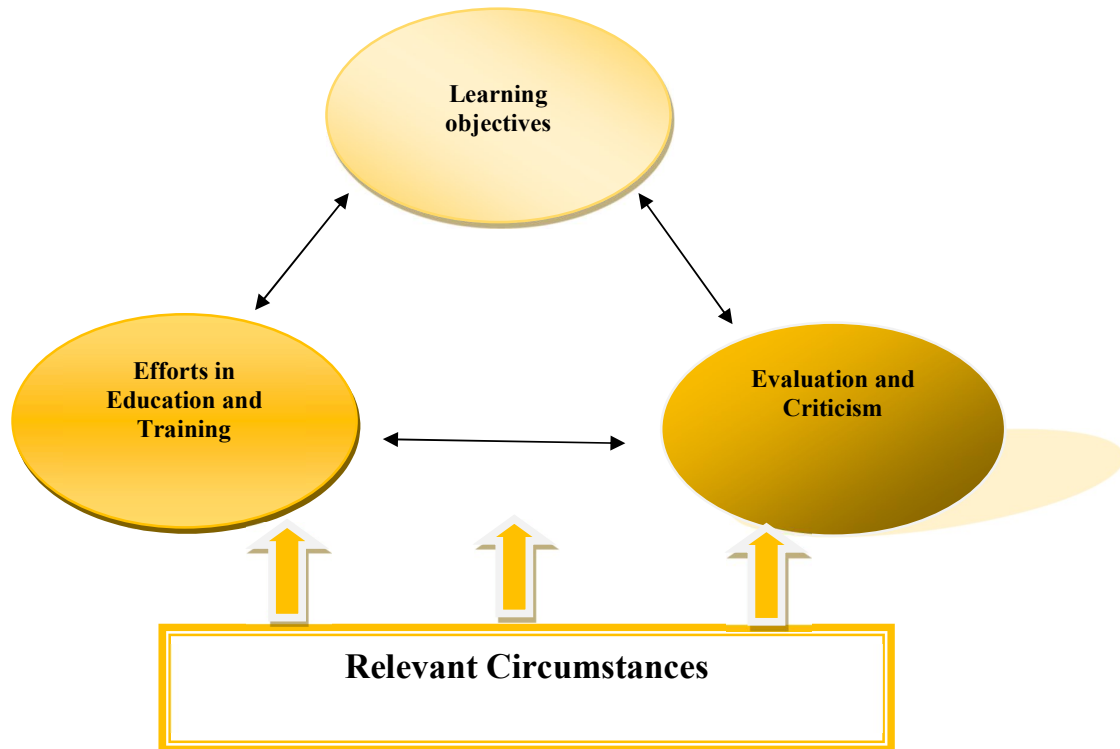
Open pedagogy focuses on learner autonomy, ample resources, and a collaborative environment. It supports activities that involve students creating and sharing open learning, encouraging collaboration and peer critique (Hegarty, 2015; Wiley, 2017). Despite its potential, traditional teaching methods and lack of support at home hinder its adoption (Bates et al., 2017; McGoldrick et al., 2015).

### **Challenge-Based Learning (CBL)**

Problem-based learning (CBL) encourages students to work together and think critically in order to find solutions to actual, real-world issues. It effectively develops competencies needed for the modern workforce (Gallagher & Savage, 2020). However, inconsistencies in implementation and the need for robust frameworks present challenges (Leijon et al., 2021).

### Higher Education for Sustainable Development (HESD)

HESD integrates sustainability principles into curricula to address global challenges. Despite progress, interdisciplinary approaches and systems thinking are difficult to implement within traditional structures (Barth & Michelsen, 2013). Further research is needed to link pedagogical approaches with sustainability competencies (Rieckmann, 2012).



**Fig - Essential Elements of a Well-Designed Course**

### Conclusion

Innovative pedagogical strategies like OEP, open pedagogy, CBL, and HESD are transforming higher education to enhance learning outcomes and prepare students for complex challenges. Addressing challenges such as standardization, institutional support, and robust frameworks through continued research and collaboration is essential for adapting to the evolving educational landscape.

### III. THEORETICAL FRAMEWORK

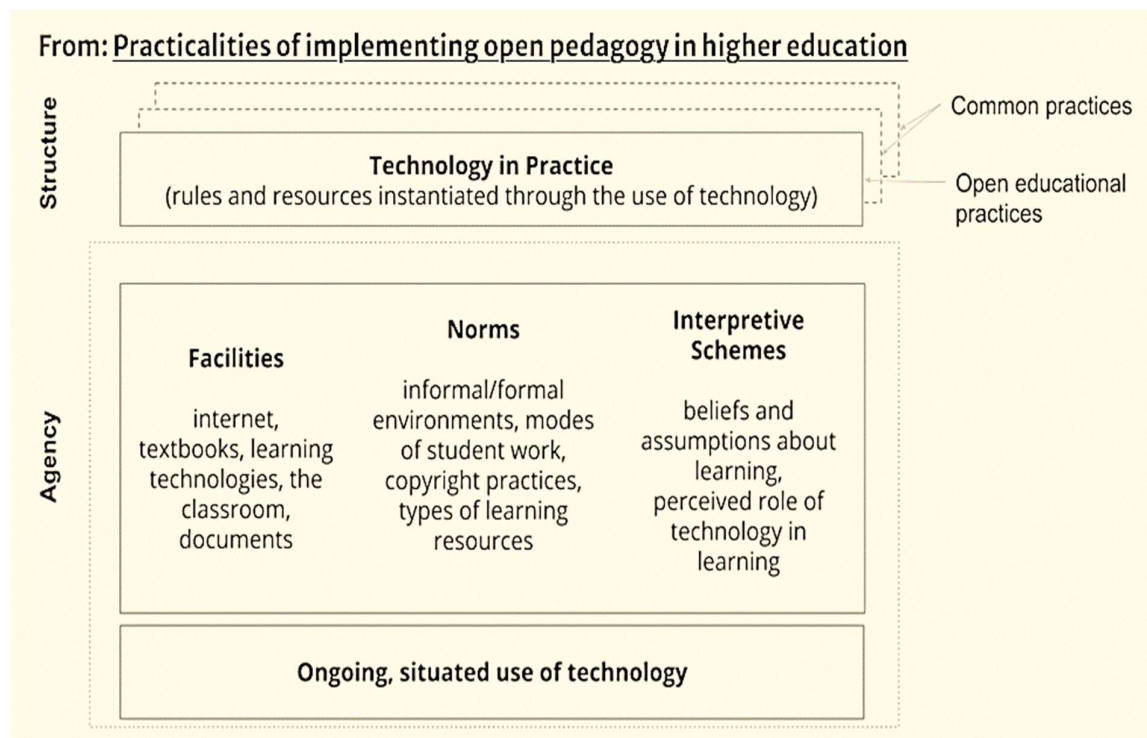
Bulfin, Henderson, and Johnson (2013), Howard and Maton (2011), Knox (2013), and Veletsianos (2015) are among the authors who continue to discuss open learning and its effects in the literature. Using a theoretical framework as analysis, this study shows how technology both affects organizational culture and helps create culture (Halperin, 2016; Orlikowski, 2000). The use of light is introduced by defining the role of individuals to participate in the implementation of social practices that create and create designs over time. Human activities both design and shape social structures, which in turn are shaped by those activities. What

people do now is a product of their past acts, which in turn are products of their knowledge, resources, opportunities, and habits rapidly reproduce and rebuild the policies and layers of capital that will shape future practices (Orlikowski, 2000).

Bulfin, Henderson, & Johnson (2013), Howard & Maton (2011), Knox (2013), and Veletianos (2015) are among the publications that discuss open learning and its associated phenomena, as well as the difficulties and potential solutions. This study uses a theoretical framework of analysis that demonstrates that technology influences organizational culture and helps create culture (Halperin, 2016; Orlikowski, 2000). The use of light is illustrated by identifying the role of people involved in establishing the relationship between design and creation over time. Human actions, both creative and informative, reproduce social structures. To influence their present activities and, in the process, swiftly rebuild systems, people draw on their information, resources, abilities, and habits of authority and capital that will lead to future practices (Orlikowski, 2000).

Structural theory defines the social system as the system that creates the resources that govern social activities. These include:

- **Interpretive Schemes:** Depending on the respondents' prior knowledge, values, and assumptions regarding learning and how they view technology as a tool for learning (Halperin, 2016).
- **Facilities:** This includes any equipment, property, or buildings that are being used.
- **Norms:** which include accepted behaviours, procedures, and protocol (Aktaruzzaman & Plunkett, 2016).



**FIGURE - 1**



Applying technology in industry. This section is taken from W. J. Orlikowski's 2000 article Published in the journal Organization Science, "A Practical Perspective on the Study of Technology in Organizations: Using Technology and Constituting Structures" (vol. 11, no. 4, pages 404-428). The year 2000 has the copyright. Both the Operations Research Institute and the Management Science School.

#### IV. METHODOLOGY

**Research Design:** Specifically, an empirical phenomenological method is utilized in this study's qualitative research strategy. When conducting in-depth research on real-life experiences and viewpoints, qualitative methods are preferred of educators regarding their integration of open educational practices (OEP) into pedagogical strategies aimed at enhancing learning outcomes in higher education.

**Participants:** The study involves 11 purposefully selected educators from research-intensive universities in British Columbia (BC). Participants were decided on primarily based on their understanding and enjoy with OEP, making sure they might provide rich insights into the phenomenon underneath observe. The choice standards included their involvement in adapting pedagogical strategies influenced via OEP and their ability to reflect on those studies.

**Data collection:** Semi-independent interviews were conducted with all participants using the Zoom online meeting platform. These interviews were selected for their ability to facilitate in-depth discussion and provide flexibility in exploring new topics. Each interview will last approximately 1 hour and will be recorded to make certain accuracy for the duration of transcription and next evaluation.

**Data Analysis:** The qualitative facts amassed from interviews have been analysed using NVivo software program, which enables systematic and rigorous evaluation of qualitative statistics. The analysis observed a based method: initial holistic readings of transcripts to comprehend common topics and patterns, observed with the aid of thematic analysis to become aware of habitual topics and phenomenological analysis to delve into the lived stories and perceptions of contributors. This dual approach aimed to uncover both the explicit strategies educators employ and the underlying meanings and interpretations they attach to their pedagogical adaptations.

**Ethical Considerations:** This study was approved by the British Columbia Ethical Review Board. Ethics Harmonization Initiative, ensuring that all aspects of the research adhered to ethical standards and respected the rights and confidentiality of participants.

COMPONENT	DETAILS
Research Design	Qualitative, empirical phenomenological approach
Participants	11 educators from research-intensive universities in British Columbia
Data Collection	Semi-structured interviews via Zoom, audio-recorded
Data Analysis	NVivo software, thematic and phenomenological analysis
Ethical Approval	Obtained from British Columbia Ethics Harmonization Initiative

## FIGURE 1 - Unravelling the Wonders and Obstacles of Higher Learning

### V. THE ABILITY OF HIGHER EDUCATION TO DEVELOP SUSTAINABLY

In higher education, competence is defined as the need for learning that involves the integration of knowledge, skills, and behaviours (Barth et al., 20XX; Brundiers et al., 20XX). Competency-based learning focuses on developing students' abilities to solve complex problems that they encounter in their lives and careers. (Wiek et al., 20XX). Unlike rote learning or indoctrination, which focus on repetition and acquisition of specific skills, competence-based education aims to foster critical thinking, ethical reasoning, and adaptable skills necessary for sustainable development (Rieckmann, 20XX).

Recent literature has extensively discussed and proposed lists of competences essential for education for sustainable development (Hanning et al., 20XX; Wiek et al., 20XX). These competences span numerous domains consisting of structures wondering, anticipatory wondering, vital analysis, interdisciplinary collaboration, moral selection-making, and powerful communication (Lambrechts et al., 20XX; Rieckmann, 20XX). For instance, Rieckmann (20XX) categorizes those competences into twelve key areas together with systemic questioning, anticipatory wondering, essential wondering, moral motion, interdisciplinary collaboration, and media verbal exchange, amongst others. This comprehensive categorization objectives to offer a holistic framework for integrating sustainable development competences into higher training curricula.

In summary, integrating competences for sustainable improvement into better training pedagogies gives both progressive possibilities and challenges. Educators should adapt their coaching techniques to cultivate competences that equip college students with the capabilities, values, and attitudes vital to address global demanding situations efficiently. Future studies have to cognizance on validating and refining those frameworks across various instructional contexts to decorate learning effects and prepare students as destiny leaders and trade sellers in an unexpectedly evolving international.

### VI. ADAPTING PEDAGOGICAL STRATEGIES FOR ENHANCED LEARNING OUTCOMES

The importance of exceptional education has been highlighted by the United Nations Decade of Education for Sustainable Development that includes a multi-method method, using numerous pedagogical processes to efficaciously educate sustainable development (SD) [61]. Educational literature on SD underscores the importance of using opportunity, pupil-activating methods in teaching and gaining knowledge of contexts to interact students actively, foster important questioning, and promote reflection [25,62,63,64]. Shifting from traditional lecture-based methods to alternative approaches has been advocated as a means to enhance SD education [66,67,68].

Pedagogy, which may be described as "the art and science of teaching," is vital in determining which instructional strategies are most suited to meet the requirements of individual students as well as the classroom setting in order to achieve predetermined pedagogical and educational objectives [17,69]. The diversity of students within higher education programs necessitates the use of varied pedagogical approaches, which enable students to develop diverse learning processes, thereby enhancing their skills and capacities [61,64,70]. However, alternative pedagogical approaches for conveying sustainability content have not yet been widely adopted in higher education [23,67].

While there is considerable literature on SD competences, there has been relatively less focus on systematically developing and implementing SD pedagogical approaches in higher education [22,24,25,62,70]. Recent efforts in educational sustainable development literature have begun to collect and analyse various pedagogical approaches, albeit lacking a comprehensive systematic approach [26,71,72]. Examples include student-activating methods such as videos, case studies, group discussions, and problem-oriented education, as outlined in manuals for integrating SD in higher education [70].

Interactive and participatory methods, action-oriented methods, and research methods are the three primary types of instructional strategies that Lambrechts et al. [21] deemed most effective in helping students acquire SD competences. Examples of the former include the Socratic method and group discussions, while examples of the latter include internships and the solution of community problems, case studies). Cotton and Winter [71] proposed a broader range of pedagogical approaches including role-plays, simulations, debates, critical incidents, and problem-based learning, among others.

Moreover, various innovative pedagogical approaches such as action learning, collaborative learning, gamification, and serious games have been proposed for SD education, although their implementation in sustainability contexts remains a subject of ongoing exploration [72,75,76,79]. Table 2 summarizes twelve well-cited pedagogical approaches from the ESD literature, categorized into universal methods applicable across disciplines, community and social justice-focused strategies, and environmental education-oriented practices. These approaches not only reflect a breadth of instructional techniques but also highlight their potential synergy in enhancing teaching and learning outcomes in higher education settings.

## VII. RESULT

This study investigates how faculty in higher education integrate open educational practices (OEP) into their teaching methods, utilizing established strategies such as social media, peer review, search-based reviews and regular feedback. Alongside traditional Learning Management Systems (LMS), educators are an increasing number of adopting open era gear like WordPress, Open Journal Systems, Hypothesis, and Google Docs. This equipment is selected no longer only for their availability but also for their capacity to promote know-how accessibility, community engagement, and crucial thinking in students.



This study identified 3 important aspects of teachers' participation in open education: (1) finding and using open education methods, (2) a clear understanding of the configuration of materials and artifacts, and (3) the use of open tools and the sharing and communication of information. resources. These dimensions complement each other and help teachers create a dynamic learning environment that goes beyond the traditional classroom. Teachers emphasize the importance of virtual and online learning and teaching knowledge to use open learning effectively, introducing new teaching methods using collaborative software and new virtual media tools.

<b>DIMENSION</b>	<b>DESCRIPTION</b>
<b>Sourcing and Utilizing Open Educational Resources</b>	Faculty actively seek and incorporate openly licensed resources and materials into their teaching, enhancing access and diversity of content.
<b>Embedding Openness in Learning Design</b>	Educators integrate principles of openness into the creation of learning materials and activities, fostering transparency and collaboration.
<b>Using Open Tools and Resources for Collaboration</b>	Adoption of collaborative software and digital media tools enables educators to engage students in interactive, multimedia-rich learning experiences.

**Figure – 1 Dimensions of Openness in Pedagogy**

This study demonstrates three important aspects of teachers' participation in open learning: (1) finding and using open learning methods, (2) having a clear understanding of the setting of equipment and artifacts, and (3) using and sharing open-source tools. and information exchange. resources. These dimensions complement each other and help teachers create a dynamic learning environment that goes beyond the traditional classroom. Teachers emphasized the importance of effective use of virtual and online learning and open learning, introducing new teaching methods using collaborative software and new virtual tools.

## **VIII. CONCLUSION**

This article delves into various important topics to study the latest developments and needs in higher education related to the realignment of teaching tactics to improve learning outcomes. In the first place, it proves that transparency is crucial in the classroom, particularly for educators who use OEP. Aside from increasing instructional possibilities for pupils, the studies indicates that PEP also motivates educators to collaborate and put into effect extra efficient pedagogical practices. Colleges and universities now have more opportunity to innovate because to open generation, which has rethought these processes that were as soon as primarily based on paradigms like studies-primarily based evaluation and social engineering.

More schooling and collaboration to assist the uninformed is made viable by OEP's usage of thrilling content and internet sources. Insisting that college students join PEP can help school individuals build a sturdy expert improvement community and enhance expert development chances. Implications for a way establishments of better getting to know should alter their pedagogical practices to inspire surroundings conducive to innovation and collaboration are great in light of these findings.

The take a look at concludes that retaining up with the needs of recent technology and global developments calls for constant innovation. The use of competency-based learning (CBL) has grown in current years as a first-rate technique for enhancing training and making ready students to fulfill the wishes of a replicating financial system.

Incorporating sustainable improvement (SD) talents into the curriculum complements the relevance and effectiveness of educational practices. Future examine must comprise longitudinal studies and cross-national comparisons to advantage a better know-how of the capacity and effectiveness of those new educational techniques. Therefore, academic effects may be further progressed.

## IX. REFERENCE

1. Pillai, S. R., & Chithirai, P. S. M. (2019). Collision avoidance mechanism in vehicles using neural networks. *Proceedings of the International Conference on Smart Systems and Inventive Technology, ICSSIT 2018*, 76-81. <https://doi.org/10.1109/ICSSIT.2018.8748689>
2. Ramaswamy Pillai, S., Reddy Madara, S., & Pon Selvan, C. (2019). Prediction of kerf width and surface roughness in waterjet cutting using neural networks. In *Journal of Physics: Conference Series* (Vol. 1276). <https://doi.org/10.1088/1742-6596/1276/1/012011>
3. Pillai, S. R., Pon Selvan, C., & Madara, S. R. (2019). Design of PID control to improve efficiency of suspension system in electric vehicles. In *Proceedings of 2019 International Conference on Computational Intelligence and Knowledge Economy, ICCIKE 2019* (pp. 570-575). <https://doi.org/10.1109/ICCIKE47802.2019.9004322>.
4. Chithirai Pon Selvan, M., Midhunchakkaravarthy, D., Senanayake, R., Ramaswamy Pillai, S., & Reddy Madara, S. (2020). A mathematical modelling of abrasive waterjet machining on Ti-6Al-4V using artificial neural network. *Materials Today: Proceedings*, 28, 538-544. <https://doi.org/10.1016/j.matpr.2019.12.215>
5. Madara, S. R., Pillai, S. R., Chithirai Pon Selvan, M., & Van Heirle, J. (2021). Modelling of surface roughness in abrasive waterjet cutting of Kevlar 49 composite using artificial neural network. *Materials Today: Proceedings*, 46, 1-8. <https://doi.org/10.1016/j.matpr.2020.02.868>.
6. Suresh, A. B., Selvan, C. P., Vinayaka, N., et al. (2024). Computational investigations of aluminum-based airfoil profiles of helical shaped vertical axis wind turbines suitable for friction stir joining and processing. *International Journal on Interactive Design and Manufacturing*, 18(1), 1491–1506. <https://doi.org/10.1007/s12008-022-01181-9>
7. Shivalingaiah, K., Nagarajaiah, V., Selvan, C. P., Kariappa, S. T., Chandrashekarappa, N. G., Lakshmikanthan, A., Chandrashekarappa, M. P. G., & Linul, E. (2022). Stir casting process analysis and optimization for better properties in Al-MWCNT-GR-based hybrid composites. *Metals*, 12(1297). <https://doi.org/10.3390/met12081297>
8. Shankar, V. K., Lakshmikanthan, A., Selvan, C. P., et al. (2023). Prediction of transient temperature at bit-rock interface using numerical modelling approach and optimization. *International Journal on Interactive Design and Manufacturing*. <https://doi.org/10.1007/s12008-023-01543-x>
9. Kumar, S., Lakshmikanthan, A., Selvan, C. P., et al. (2023). Effect of interlock angle and bottom die flange diameter on clinching joint load bearing capacity in cross-tensile loading.

- \*International Journal on Interactive Design and Manufacturing, 17\*(1), 2209–2220.  
<https://doi.org/10.1007/s12008-022-00955-5>
10. Nagarajan Thiyaneshwaran, Chithirai Pon Selvan, Lakshmikanthan, A., Sivaprasad, K., & Ravisankar, B. (2021). Comparison based on specific strength and density of in-situ Ti/Al and Ti/Ni metal intermetallic laminates. *Journal of Materials Research and Technology*, 14, 1126-1136. <https://doi.org/10.1016/j.jmrt.2021.06.102>
  11. Minervini G, Franco R, Marrapodi MM, Di Blasio M, Ronsivalle V, Ciccì M. Children oral health and parents education status: a cross sectional study. *BMC Oral Health*. 2023 Oct 24;23(1):787. doi: 10.1186/s12903-023-03424-x. PMID: 37875845; PMCID: PMC10594879.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85174817824&origin=resultslist>
  12. Minervini G, Franco R, Marrapodi MM, Almeida LE, Ronsivalle V, Ciccì M. Prevalence of temporomandibular disorders (TMD) in obesity patients: A systematic review and meta-analysis. *J Oral Rehabil*. 2023 Dec;50(12):1544-1553. doi: 10.1111/joor.13573. Epub 2023 Aug 27. PMID: 37635375.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85168909924&origin=resultslist>
  13. Minervini G, Franco R, Marrapodi MM, Di Blasio M, Isola G, Ciccì M. Conservative treatment of temporomandibular joint condylar fractures: A systematic review conducted according to PRISMA guidelines and the Cochrane Handbook for Systematic Reviews of Interventions. *J Oral Rehabil*. 2023 Sep;50(9):886-893. doi: 10.1111/joor.13497. Epub 2023 May 24. PMID: 37191365.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85160102823&origin=resultslist>
  14. Minervini G, Franco R, Marrapodi MM, Fiorillo L, Cervino G, Ciccì M. The association between parent education level, oral health, and oral-related sleep disturbance. An observational crosssectional study. *Eur J Paediatr Dent*. 2023 Sep 1;24(3):218-223. doi: 10.23804/ejpd.2023.1910. PMID: 37668455.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85169847956&origin=resultslist>
  15. Minervini G, Franco R, Marrapodi MM, Fiorillo L, Cervino G, Ciccì M. Post-traumatic stress, prevalence of temporomandibular disorders in war veterans: Systematic review with meta-analysis. *J Oral Rehabil*. 2023 Oct;50(10):1101-1109. doi: 10.1111/joor.13535. Epub 2023 Jun 23. PMID: 37300526.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85169847956&origin=resultslist>
  16. Di Stasio D, Romano A, Paparella RS, Gentile C, Serpico R, Minervini G, Candotto V, Laino L. How social media meet patients questions: YouTube review for mouth sores in children. *J Biol Regul Homeost Agents*. 2018 Jan-Feb;32(2 Suppl. 1):117-121. PMID: 29460528.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85042328325&origin=resultslist>
  17. Di Stasio D, Lauritano D, Romano A, Salerno C, Minervini G, Minervini G, Gentile E, Serpico R, Lucchese A. IN VIVO CHARACTERIZATION OF ORAL PEMPHIGUS VULGARIS BY OPTICAL COHERENCE TOMOGRAPHY. *J Biol Regul Homeost Agents*. 2015 Jul-Sep;29(3 Suppl 1):39-41. PMID: 26511179.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-84992222066&origin=resultslist>
  18. Di Stasio D, Lauritano D, Gritti P, Migliozi R, Maio C, Minervini G, Petrucci M, Serpico R, Candotto V, Lucchese A. Psychiatric disorders in oral lichen planus: a preliminary case

- control study. *J Biol Regul Homeost Agents*. 2018 Jan-Feb;32(2 Suppl. 1):97-100. PMID: 29460524.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85042256369&origin=resultslist>
19. Lucchese A, Dolci A, Minervini G, Salerno C, Di Stasio D, Minervini G, Laino L, Silvestre F, Serpico R. Vulvovaginal gingival lichen planus: report of two cases and review of literature. *Oral Implantol (Rome)*. 2016 Nov 13;9(2):54-60. doi: 10.11138/orl/2016.9.2.054. PMID: 28042431; PMCID: PMC5159910.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-84995923599&origin=resultslist>
  20. Di Stasio D, Romano A, Gentile C, Maio C, Lucchese A, Serpico R, Paparella R, Minervini G, Candotto V, Laino L. Systemic and topical photodynamic therapy (PDT) on oral mucosa lesions: an overview. *J Biol Regul Homeost Agents*. 2018 Jan-Feb;32(2 Suppl. 1):123-126. PMID: 29460529.  
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85042255902&origin=resultslist>
  21. Bhanushali, M. M., Sharma, A., Sharma, S., Gehlot, A., Rawal, P., & Kapila, D. (2023, May). A detailed and significant analysis of The Effects of Big-Data over The Revolution of Internet Marketing. In 2023 3rd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE) (pp. 1026-1031). IEEE, doi: 10.1109/ICACITE57410.2023.10182372.
  22. Bhanushali, M. M., Bhardwaj, S., Singh, N. K., Vijayalakshmi, P., Mazumdar, N., & Acharjee, P. B. (2024). From Automation to Optimization: Exploring the Effects of AI on Supply Chain Management. In *Utilization of AI Technology in Supply Chain Management* (pp. 77-94). IGI Global. DOI: 10.4018/979-8-3693-3593-2.ch006
  23. M. Jahir Pasha, K. Gaurav, A. K. Bhanja, M. D. Shamout, C. B. Mupparaju and M. Manohar Bhanushali, "Advancing Data Science Using AI-Driven Processes," 2023 International Conference on Power Energy, Environment & Intelligent Control (PEEIC), Greater Noida, India, 2023, pp. 1587-1593, doi: 10.1109/PEEIC59336.2023.10451426.
  24. Bhanushali, M. M. (2022). Study of procurement procedure and to suggest a procedure for repeat orders to enable upgradation of the technology with respect to Indian PSU refineries. University of Mumbai, <http://hdl.handle.net/10603/539553>
  25. A. Sharma, S. Poojitha, A. Saxena, M. M. Bhanushali and P. Rawal, "A Conceptual Analysis of Machine Learning Towards Digital Marketing Transformation," 2022 5th International Conference on Contemporary Computing and Informatics (IC3I), Uttar Pradesh, India, 2022, pp. 313-316, doi: 10.1109/IC3I56241.2022.10073416. keywords: {Performance evaluation;Instruments;Search engines;Media;Prediction algorithms;Software;User experience;AI;Deep Learning;Digital Marketing;Machine Learning;Search Engine Marketing},
  26. Bhanushali, M. M., Sharma, A., Sharma, S., Gehlot, A., Rawal, P., & Kapila, D. (2023, May). A detailed and significant analysis of The Effects of Big-Data over The Revolution of Internet Marketing. In 2023 3rd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE) (pp. 1026-1031). IEEE, doi:10.1109/ICACITE57410.2023.10182372.
  27. Veerasamy, K., Sanyal, S., Almahirah, M. S., Saxena, M., & Manohar Bhanushali, M. (2022). An Investigative Analysis for IoT Based Supply Chain Coordination and Control Through Machine Learning. In V. E. Balas, G. R. Sinha, B. Agarwal, T. K. Sharma, P.

- Dadheech, & M. Mahrishi (Eds.), *Emerging Technologies in Computer Engineering: Cognitive Computing and Intelligent IoT* (pp. 149–159). Cham: Springer International Publishing. DOI [https://doi.org/10.1007/978-3-031-07012-9\\_13](https://doi.org/10.1007/978-3-031-07012-9_13)
28. A. Sidana, T. Jindal, U. K. Pandey, J. Singh, S. T. Vasantham and M. M. Bhanushali, "Investigation of Block chain Technology Based on Digital Management System with Data Mining Technology for Green Marketing," 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), Greater Noida, India, 2022, pp. 1309-1313, doi: 10.1109/ICACITE53722.2022.9823696.
  29. Sindhura, K., Anand, J., Selvalakshmi, V., Bhanushali, M. M., Narang, P., & Thangamani, M. (2023, November). The transformation of business and society with the influence of data science. In *AIP Conference Proceedings* (Vol. 2587, No. 1). AIP Publishing.
  30. S. K, A. Sabarirajan, K. S. U, P. Narang, M. M. Bhanushali and A. K. Turai, "Human Resource Management based Economic analysis using Data Mining," 2022 3rd International Conference on Intelligent Engineering and Management (ICIEM), London, United Kingdom, 2022, pp. 872-876, doi: 10.1109/ICIEM54221.2022.9853202.
  31. Trasca, T. I., Ocnean, M., Gherman, R., Lile, R. A., Balan, I. M., Brad, I., ... & Firu Negoescu, G. A. (2024). Synergy between the Waste of Natural Resources and Food Waste Related to Meat Consumption in Romania. *Agriculture*, 14(4), 644.
  32. Balan, I. M., Gherman, E. D., Gherman, R., Brad, I., Pascalau, R., Popescu, G., & Trasca, T. I. (2022). Sustainable nutrition for increased food security related to romanian consumers' behavior. *Nutrients*, 14(22), 4892.
  33. Balan, I. M., Gherman, E. D., Brad, I., Gherman, R., Horablaga, A., & Trasca, T. I. (2022). Metabolic Food Waste as Food Insecurity Factor—Causes and Preventions. *Foods*, 11(15), 2179.
  34. Balan, I. M., Popescu, A. C., Iancu, T., Popescu, G., & Tulcan, C. (2020). Food safety versus food security in a world of famine. *Food Safety Versus Food Security in a World of Famine. Journal of Advanced Research in Social Sciences and Humanities*, 5(1), 20-30.
  35. Salasan, C., & Balan, I. M. (2022). The environmentally acceptable damage and the future of the EU's rural development policy. In *Economics and Engineering of Unpredictable Events* (pp. 49-56). Routledge.
  36. Lile, R., Constantinescu, S. C., Durau, C. C., Ocnean, M., & Balan, I. M. (2016). RESEARCH ON AQUACULTURE IN ROMANIA OVER THE PAST DECADE-QUALITY AND DYNAMICS. In *3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM 2016* (pp. 1005-1012).
  37. Balan, I. M., Chis, S. S., Constantinescu, S. C., Ciolac, R. M., Sicoe-Murg, O. M., & Chis, S. (2016). Romanian imports evolution of fish and fish products according to quality classes. *Journal of Biotechnology*, (231), S101.
  38. Cornelia, P., Ioana, B., Petroman, I., DORA, O. M., Băneș, A., Trifu, C., & Diana, M. (2009). Național grading of quality of beef and veal carcasses in Romania according to EUROPEAN system. *Food Journal of Agriculture & Environment science and technology*, 7(3&), 4.
  39. Sălășan, C., & Bălan, I. (2014). Suitability of a quality management approach within the public agricultural advisory services. *Quality-Access to Success*, 15(140), 81-84.

40. BALANCE OF RED MEAT IN ROMANIA - ACHIEVEMENTS AND PERSPECTIVES

<https://www.webofscience.com/wos/woscc/full-record/WOS:000385997200048>

Nicoleta MATEOC SIRB, Paun Ion OTIMAN, Teodor MATEOC, Cosmin SALASAN,  
Ioana ...

FROM MANAGEMENT OF CRISIS TO MANAGEMENT IN A TIME OF CRISIS