Active and Transformative Learning (ATL) for Teaching and Integrating Digital Transformation (DT) and Smart Cities (SC) into Business Schools' Curricula

Miltiadis Lytras

The American College of Greece – Deree College, Greece

Abstract

Active and Transformative learning (ATL) is a new educational paradigm grounded in diverse background theories and disciplines. In our research we are focusing on the capacity of ATL to justify meaningful learning experiences for Business School students with an emphasis on the integration of Digital Transformation and Smart Cities topic on Business School Educational curricula. The purpose of this research is four-fold:

(i) To contribute to the body of knowledge of the Active learning in the context of Business School curricula;

(ii) To experiment with the capacity of active learning strategies to enhanced the added value of Business School Majors with the introduction of programs and degrees related to Digital Transformation and Smart Cities;

(iii) To justify best practices and recommendations for the effective integration of active learning to DT and SC in to Business Schools Educational and Training Programs and relevant degrees

(iv) To run an international survey on the integration of Digital Transformation and Smart Cities programs into business school curricula and to conclude with meaningful recommendations.

Keywords: *Active and Transformative Learning, Digital Transformation, Smart Cities, Curriculum Development, Business Schools, Digital Competence.*

1. Digital Transformation and Smart Cities as a new value proposition for Business Schools

In the recent years the debate on the digital transformation has been applied to various disciplines and domains. It appears as a catalyst for a new era of value proposition and for the holistic enhancement business process-oriented performance. In parallel Smart Cities have emerged as wide, broad context for technology-enabled digitally transformed services and value delivery in the context of urban and rural areas [1-4]. The fast development of new technologies and the maturity level of streamlined ones allow scientists, consultants, companies, governments, policy makers and decision makers to vision a brand-new era of digital transformation and smart cities for the humanity.

Within this context, Higher Education institutions have to reflect the demand for skills and specialties related to smart cities and digital transformation in mutli-disciplinary and inter-disciplinary domains. The deep understanding of the diverse facets of the knowledge and research agenda for smart cities and digital transformation, is an excellent test bed for a new era of educational programs in higher education. To our understanding, smart cities and digital transformation courses and programs, represent a new category of educational initiatives that reflect a diverse set of skills, competencies and knowledge. This category of educational programs require knowledge from a variety of disciplines e.g. management, computer science, social sciences, economics, sustainability, etc and also need soft skills related to effective communication, team work, decision making, problem solving, creativity and many others [5-17]. In our paper, we communicate our thoughts and ideas for the introduction of Smart Cities and Digital Transformation in Business Schools. In the next section we provide some recommendation.

2. A strategic proposition for the integration of Digital Transformation and Smart Cities in Business School's curricula

The Digital Transformation and Smart Cities theme, has some features that can be applied in many other emerging themes in Higher Education. It is worthy before introducing our strategic proposition, to elaborate further on these features in the following paragraphs.
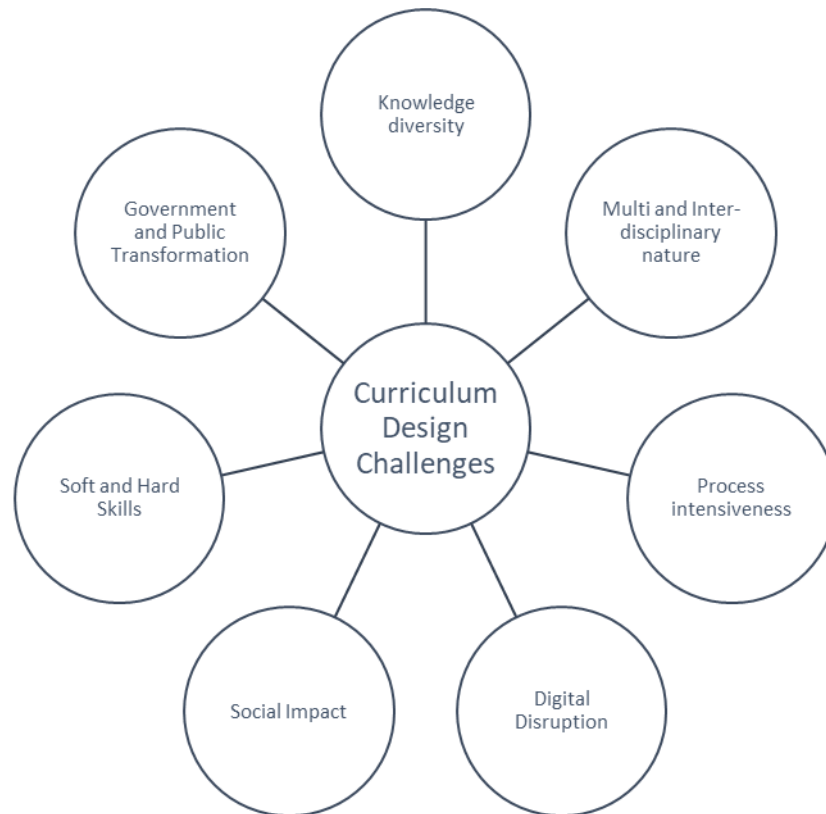

Fig 1. Curriculum Design Challenges

Knowledge diversity: In this case the knowledge needs to be communicated and integrated in courses and programs covers a wide area of themes, including technical knowledge, procedural knowledge, policy related knowledge and also diverse conceptual modelling topics.

Multi and Inter-disciplinary nature: The coverage of the Smart Cities and Digital Transformation theme has diverse background theories. Also, the unique value proposition of the domain utilizes and expands contributions from different disciplines.

Process intensiveness: The theme of Smart Cities and Digital Transformation has a bold tight with processes and domain specific knowledge that is challenging significantly its introduction in higher education. It provides though an excellent opportunity for Academia-Industry-Government collaborations and joint educational programs.

Digital Disruption: The theme has a critical and radical digital disruption component. From this point of view the newly introduced programs and courses have the opportunity to position themselves in a wide spectrum of options with heavy or light emphasis on the technical components of the technical knowledge.

Social Impact: Digital transformation and Smart Cities, are themes with significant social impact. In other words, the social agenda and the understanding of social challenges, problems and solutions can be also ranked high in the relevant coverage of discussion topics.

Soft and Hard Skills: A new set of skills and competencies is also associated with the Smart Cities and Digital Transformation. Team work, communication skills, creativity, emotional intelligence, problem solving, decision making, data-driven evidence and propositions, policy consultation are few

of the many. New educational programs in Business Schools have to invest on active and transformative Learning activities and designs capable of covering this new skillset.

Government and Public Transformation: This is another substantial dimension of the theme. Its applicability in almost any aspect of Government and Public Administration together with Municipalities and Cities Planning, highlights the high-level context of the theme.

Table 1. Proposition for an undergraduate Level 6 course on Digital Transformation and Smart Cities in Business Schools.

Course Title: Digital Transformation and Smart Cities
Duration: 40 hours

Section	Duration (hours)	Active and Transformative Learning Strategy (indicative assessments)
Digital Transformation Overview	4	• Adopt a city / village. Summarize briefly with your team a list of ten big challenges for the wellbeing and the quality of life in the city. Propose services and interventions for each of these challenges.
Enabling Technologies - Data Warehouses - Data Mining and Analytics - Internet of Things - Cloud Computing - Artificial Intelligence - Sensors - Metaverse - Open Source	12	• Elaborate on the different types of data that reside on the City context. Work with your team and suggest meaningful ways to "process" these data for a new value-adding service. • Focus on a Government service for the citizens. Identify in aspects of limited performance or bureaucracy. Propose a new digitally transformed service to increase efficiency and performance.
Digital Transformation Strategies	4	• What is an applicable Digital Transformation Strategy for Higher Education. Elaborate on the diverse components of this strategy • Develop a benchmarking repost for the DT Strategy in Healthcare
Smart Cities Foundations	4	• Develop a network of citizens from 10 smart cities around the world • Develop a list of excellent smart cities services around the world. Discuss the possibility of adopting these services in your country/city. Which are the challenges?
Smart Cities Application Domains - Smart Mobility - Smart Transportation - Smart Health - Smart Community - Smart Government - Smart Tourism - Smart Entertainment - Smart Public Services	16	• Challenge: Develop a Smart City team with at least ten members from diverse backgrounds e.g. manager, finance expert, social scientists, computer scientists, graphics designer, psychologist, social activist, marketing expert, social media influencer. Choose any smart city application domain and present a new idea for a startup business. Develop a business plan.

Table 2. Proposition for Post Graduate Degree on Digital Transformation and Smart Cities in Business Schools.

M.Sc. Digital Transformation and Smart Cities

Courses	Duration (hours)	Indicative Titles of Suggested Courses for the MSc Program
1 course on Foundations of Digital Transformation for Business	20	• Foundations of DT for Business
3 courses on Enabling Technologies for DT (3 electives from a list of 8 courses)	60 (3x20)	• Business Analytics and Data Mining • Artificial Intelligence for Business • Internet of Things, Sensors and Applications • Metaverse Foundations • Cloud Computing and the Cloud Business Ecosystem • E-Gov services • Open Source Ecosystem • E-marketplaces and Business Models
1 course on DT Strategy: Business Processes, Business Goals, Competition	20 (1x20)	• Digital Transformation Strategy and Business Strategy
1 Course on Smart Cities Foundations	20 (1x20)	• Foundations of Smart Cities
3 courses on Smart Cities Domains (3 electives from a list of 8 courses)	60 (3x20)	• Smart Cities Management • Smart Mobility and Smart Energy • Smart Health • Smart Community and Social Platforms • Transforming Government and Smart Public Services • Smart Tourism • Well Being and Quality of Life in Smart Cities • AI enabled Entrepreneurship
1 Thesis project	60 hours	• Thesis

3. Conclusions

In this paper, we tried to communicate a resilient way for the introduction of Smart Cities and Digital Transformation themes on Business Schools curricula. We tried to communicate a new era of diverse challenges for emerging topics that can enhance the unique value proposition of Business Schools, that strengthen the relation of Academia-Industry-Entrepreneurship-Innovation-Sustainability. In our future work we elaborate further on foundations of Active and Transformative learning for Smart Cities and Digital Transformation interventions in higher education. We also intend to publish the results of a survey.

References

[1] Lytras, M.D., Alsaywid, B. and Housawi, A. "Smart Cities and Digital Transformation: Empowering Communities, Limitless Innovation, Sustainable Development and the Next Generation", Emerald Publishing Limited, Bingley, ISBN: 978-1-80455-995-6, 2023

[2] Lytras, M.D. (2023), "Future Smart Cities Research: Identifying the Next Generation Challenges", Lytras, M.D., Housawi, A.A. and Alsaywid, B.S. (Ed.) Smart Cities and Digital Transformation: Empowering Communities, Limitless Innovation, Sustainable Development and the Next Generation, Emerald Publishing Limited, Bingley, pp. 1-11, 2023

[3] Nikiforova, A., Flores, M.A.A. and Lytras, M.D., "The Role of Open Data in Transforming the Society to Society 5.0: A Resource or a Tool for SDG-Compliant Smart Living?", Lytras, M.D., Housawi, A.A. and Alsaywid, B.S. (Ed.) Smart Cities and Digital Transformation: Empowering

Communities, Limitless Innovation, Sustainable Development and the Next Generation, Emerald Publishing Limited, Bingley, pp. 219-252. 2023

[4] Lytras, M.D., Alsaywid, B. and Housawi, A. "Digital Transformation and Smart Cities: Insights from the Healthcare Domain", Lytras, M.D., Housawi, A.A. and Alsaywid, B.S. (Ed.) Smart Cities and Digital Transformation: Empowering Communities, Limitless Innovation, Sustainable Development and the Next Generation, Emerald Publishing Limited, Bingley, pp. 319-325, 2023

[5] Naeve, A., Sicilia, M.-A., & Lytras, M. D. "Learning Processes and processing learning: from organizational needs to learning designs", Journal of Knowledge Management, 12(6), 5- 14, 2008.

[6] Zhuhadar, L., Yang, R., & Lytras, M. D. "The impact of Social Multimedia Systems on cyberlearners", Computers in Human Behavior, 29(2), 378–385, 2013.

[7] Lytras, M. D., Naeve A., Pouloudi A. "A knowledge management roadmap for e-learning: the way ahead", International Journal of Distance Education Technologies (IJDET), 3(2) pp: 68-75, 2005

[8] Lytras, Miltiadis D, & de Pablos, P. O. "Social Web Evolution: Integrating Semantic Applications", IGI Global, ISBN13: 9781605662725, 2009.

[9] Arafat, S., Aljohani, N., Abbasi, R., Hussain, A., & Lytras, M. "Connections between e-learning, web science, cognitive computation and social sensing, and their relevance to learning analytics: A preliminary study", Computers in Human Behavior, 92, 478–486, 2019.

[10] Al-Youbi, A. O., Al-Hayani, A., Bardesi, H. J., Basheri, M., Lytras, M. D., & Aljohani, N. R. "The King Abdulaziz University (KAU) pandemic framework: a methodological approach to leverage social media for the sustainable management of higher education in crisis". Sustainability, 12(11), 4367, 2020.

[11] Zhang, X., Jiang, S., Ordonez de Pablos, P., Lytras, M.D., Sun, Y. "How virtual reality affects perceived learning effectiveness: a task's technology fit perspective", Behaviour and Information Technology, 36 (5), 548-556, 2017.

[12] Zhang, X., Zhang, Y., Sun, Y., Lytras, M., Ordonez de Pablos, P., He, W. "Exploring the effect of transformational leadership on individual creativity in e-learning: a perspective of social exchange theory", Studies in Higher Education, pp. 1-15, 2017.

[13] Lytras, M.D., Mathkour, H. "Advances in research in social networking for open and distributed learning" International Review of Research in Open and Distance Learning, 18 (1), pp. i-iv, 2017.

[14] Lytras, M.D., Raghavan, V., Damiani, E. "Big data and data analytics research: From metaphors to value space for collective wisdom in human decision making and smart machines", International Journal on Semantic Web and Information Systems, 13 (1), 1-10., 2017

[15] Lytras, M.D., Visvizi, A., Damiani, D., Mathkour, H. "'The cognitive computing turn in education: prospects and application", Computers in Human Behavior, 2018.

[16] Lytras, M.D., Visvizi, A., Daniela, L., Sarirete, A., Ordonez De Pablos, P. "Social Networks Research for Sustainable Smart Education", Sustainability, 10 (9), 2974,

[17] Visvizi, A., Jussila, J., Lytras, M.D., Ijäs, M. "Tweeting and mining OECD-related microcontent in the post-truth era: a cloudbased app", Computers in Human Behavior, Volume 107, June 2020, 105958, 2020.