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Process Improvement Approach to Transform Online Business Education in the Post-COVID World

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Abstract: In early 2020, the World Health Organization declared COVID-19 a global emergency. This pandemic has affected higher education, especially the world of business education and professional programmes, beyond imagination. This study/project examines an innovative teaching and learning approach, Lean methodology, and its application to business education. Although Lean Thinking originated in the automobile industry several years ago, research on its application and sustainability at academic institutions, especially in the teaching and learning process, has been extremely limited. Recent research demonstrates that this approach has been successfully implemented in healthcare and health sciences education. This project takes a step forward and identifies how a similar approach can be applied to business education in post-pandemic education. The project concludes with practical tips that higher education institutions can use as planning for post-pandemic begins.

Keywords: lean management, online education, COVID-19, post-pandemic, business education.

Introduction

In early 2020, the World Health Organization declared COVID-19 a global emergency. Universities and colleges across the world quickly transitioned to online or hybrid media/classes to avert, or, rather, curtail the unprecedented crisis. Several safety measures were implemented including handwashing, social distancing, and temporary closure of in-person operations. In a rather unplanned and sudden move, academic institutions were required to adapt to a "new normal" and quickly create structural support systems to avoid disruption of education (Armstrong-Mensah et al., 2020). While transition from face-to-face to a new form of instruction could be simpler for a few disciplines, one must note that it is harder for professional disciplines such as business and healthcare/health sciences, as they require a mandatory experiential component to their education. For example, students in these disciplines need to complete internships, field experiences, practicum and capstone projects that need on-campus attendance at the educational institute and business/office setting organisation they are working closely with. Instructors who teach courses in these disciplines were not ready for the unforeseen, unclear, and rapid transition to a new model of course delivery. Unavailability of best practices or evidence surrounding transition to online modality also made this sudden shift extremely challenging.

In recent years, there has been a shift in traditional face-to-face education and instructors were encouraged to include online teaching in their classes. This is true for disciplines such as business and healthcare education. While online education has its benefits, it is usually not the preferred method of teaching and learning from instructors' and students' standpoint (Vivolo, 2016; Grodotzki et al., 2021). Creating engaging online learning experience for students requires learning new skills, and a huge

time investment and effort from the instructors (Asgari et al., 2020; Grodotzki et al., 2021). This could be extremely difficult for majors/programmes where in-person meetings are required to complete lab experiences and/or required experiential learning components as part of the curriculum. From the student's viewpoint, one may find it hard to learn complex concepts in a virtual or remote environment. There is also a popular belief that virtual learning does not lead to a deeper level of learning (Holzweiss et al., 2014; Grodotzki et al., 2021).

COVID Crisis and Plight of Business Education

Multiple countries across Asia have witnessed a deadly surge in active COVID-19 cases more than once in the past two years With more than two billion people sick around the globe, an increase in cases, coupled with sharply rising mortality, has left the majority of hospitals overwhelmed. The speed and scale with which this virus has spread has led to the closure of many organisations, including educational institutions and other businesses (UNICEF, n.d.). As universities shut down for a prolonged period of time, educational institutions started adopting/using popular e-learning tools such as online learning management systems, Zoom, Microsoft Teams, or other online platforms. However, design and execution of content via an online medium of instruction has been the major concern. Furthermore, it must also be noted that online or virtual learning has not been utilised on a larger scale in the Indian education system (Muthuprasad et al., 2021). Business students and students in other professional programmes need sound technical knowledge to function effectively once they graduate from their respective programmes. The pedagogy for education in these fields has not changed and faculty is still practicing traditional teaching methods (Soundarya, 2020). In professional programmes such as business education practical knowledge and skills are needed so students can prepare to function in a real world setting (Kaur et al., 2021).

Business education requires in-person interaction and a case study approach while working with students in face-to-face settings. Due to COVID there has been a push to move to online or hybrid classes. Students need in-depth understanding of qualitative and quantitative data analysis skills, solid knowledge of external and internal environment and personality development sessions to prepare for internship and job placement. Research suggests that the pandemic forced students and faculty to stay at home and to include e-learning tools to teach and communicate with students. While these tools have an advantage, it also leaves students anxious and less involved with important concepts, especially when an instructor utilises a completely online medium of instruction. This on-going health crisis has created fear and anxiety in the minds of faculty and students. Students were not only anxious but also missed a real in-person learning environment (Mahajan, 2020).

One must note that online education can provide a feasible option for a few months but it also raises the concern of compromising the quality of interaction with students. There is a struggle to create a meaningful learning environment for students. Having students in one physical space allows instructors to engage students in games, activities, project work and cases that deal with real world business problems. Sudden, unplanned, and unstructured approaches, especially one adopted by instructors during the COVID crisis may leave students clueless and unprepared for real world settings (Mahajan, 2020). There is evidence that the pandemic will likely stay (however active cases may decline) and instructors will have to learn and work with online tools to promote a holistic development of students. We have to ensure that students get similar, if not better, and well organised classes even if they are taking classes using an online or hybrid medium of instruction. Lean

methodology, as demonstrated by recent evidence in online healthcare education, helps in creating maximum value for students by reducing waste and wait times. It aims to essentially change how faculty thinks, which, ultimately, leads to a change of behavior and culture over time. Based on the Toyota model, where the initial focus was to make car manufacturing more efficient, this approach has made its way to the healthcare industry. Recent evidence in the field of health science education demonstrates that this approach can be utilised in academic programmes across similar disciplines as well. Usage of the Lean Model in online classes could enhance students' engagement/performance and allow instructors to create a streamlined process where information flows to students without interruption (Singh, 2019; Singh, 2021).

Lean Model in Business Education

Lean methodology can be utilised to improve design and delivery of courses in business education. Emiliani (2004) indicated enhanced student satisfaction, less confusing course assignments and lectures, a standardised system of course format/delivery, and better students' outcome once Lean principles were integrated in the classroom setting. Further there was greater consistency in the overall teaching and learning process, minimal or no waste and greater value as perceived by students. In addition to teaching and learning practices in business education, Lean thinking can be effectively applied to remove "superfluous and non-value added activities" in a business curriculum. For example, utilisation of a value stream map to create curriculum that focuses on employability of students can result in a better skill set for graduating business students (Zighan & Qasem, 2020). While several researchers/academics have applied Lean methods in traditional business education and face-to-face programmes, it is important to note that there is minimal or no evidence on application of Lean methods in online business education. A recent study completed by Singh (2021) presented a Lean Model that was implemented and tested in online health sciences/healthcare education. This model focused on educational process improvement by adopting a student centered approach and elimination of non-value added steps/activities that are not meaningful to customers including students, employers, and accreditation bodies.

In light of the on-going pandemic, curriculum was revised using a variety of technologies and instructional design principles. There were three major distinctions between traditional online classes and the "Lean" online classes as presented in the study. In the Lean class, first, practitioners/experts in the field influence the material students read and study. Second, regular efforts are made to reach out to employers and alumni to update course content. Third, in teaching based on "Lean" methodology, it is effective to highlight and introduce "Lean" in this area to help students learn to separate "human work" from "machine work." "Lean" methodology looks at the customer's perspective to offer efficacy and standardisation. Instructors can reserve time for material that requires in-depth understanding and/or idea conceptualisation while using machines where possible for activities like quiz grading. From an administrative standpoint, students learn this method through the programme and, as a result, it prepares them to be more effective health care administrators where "Lean" also holds relevant application (Singh, 2021).

Description of the Lean Model

The Lean Model comprises concepts such as student-centered approach, jidoka, just-in-time production of services, staff involvement, standardisation and stability (Singh, 2021). This can be

visualised using the image of a house (Fig. 1). The walls consist of jidoka and just-in-time. Usage of Lean concepts in teaching and learning approaches can enhance students' engagement/performance and allow instructors to create a streamlined process where information flows to students without interruption (Singh, 2021).

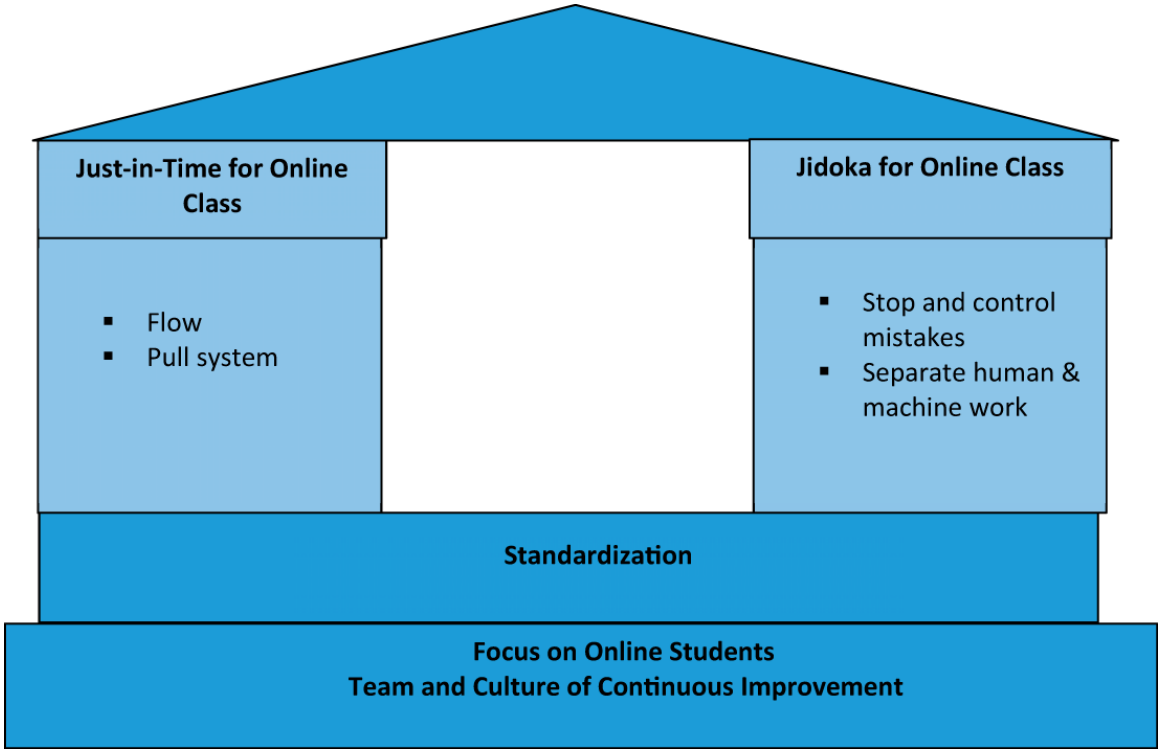

Figure 1: The foundation of the house is stability and standardisation. (Singh, J. et al., 2021. Leaning online education during COVID-19 pandemic – Attitudes and perceptions of non-traditional adult learners. *Quality Assurance in Education*, *29*(4), pp. 408-421.)
https://doi.org/10.1108/QAE-12-2020-0147. (Used with permission.)

Institutions of higher education and online education programmes that integrate Lean principles can reduce waste and activities that are not needed while improving the quality of education. By incorporating different methods (qualitative and/or quantitative) to collect students' feedback, and establishing and using a continuous feedback loop/mechanism, an evidence-based method used in other industries such as Lean can be carefully integrated into online education. Once the Lean approach has been adopted, efforts are needed to utilise the data/feedback collected through a continuous-learning loop such as this would enable online educators to constantly update and improve their teaching approach, focus on students' needs and ultimately reduce unwanted activities from classes.

Lean Model in Online Business Education

This author believes that Lean principles such as value, value streams, flow, pull and perfection must be utilised to build business education programmes and classes in professional programmes. As noted by Singh et al. (2021), a visual curriculum map of online classes, the involvement of alumni and business leaders in designing actual curriculum, and the removal of non-value added

assignments/redundant material can help in designing classes. Methods outlined below could help educators:

- Short syllabus with key policies and requirements should be made available to students.
- Consistent course design and format should be used in online classes to build a standard process of online class delivery and reduce variation.
- Decision about class meetings and engagement opportunities should be made in collaboration with students.
- Methods, such as videos, to explain assignments, real-world case study assignments and simulation-based exercises should be used to enhance engagement.

Instructors should stop and control mistakes and separate human and machine work to ensure that they are not overworked while teaching students. Online chat sessions and short videos must be utilised to provide feedback. Instructors should use machine graded quizzes and preserve time for detailed feedback for case studies and assignments that need an in-depth understanding of content (Singh, 2021).

In the spirit of continuous improvement, instructors should meet regularly and consistently arrange meetings with instructional designers to change and/or adapt their teaching methods. Surveys from both students and alumni must be gathered and appropriate changes must be made based on the feedback received (Singh, 2021).

Lean in Post-Pandemic Education

As more and more individuals across the world receive vaccines and we move towards a world that may be free from the virus or at least have the current crisis under control, instructors in business programmes and other professional programmes can utilise the Lean approach to improve learning experiences and student satisfaction in online classes. The student centered approach, as demonstrated in the research, helps in creating better course navigation and adds to the clarity of assignments. Just in Time (JIT) reduces wait times and helps students in progressing at their own pace. A standardised approach to course design requires that once the course and its assignments are presented they are not changed unless absolutely necessary. Use of these methods will allow instructors to plan for post-pandemic education.

Another key finding of this recent study that could help in designing relevant course material for the post-COVID world is the use of feedback from alumni and business leaders. This could help in connecting with the field and using assignments that are of critical importance for practice professions (Singh, 2021). As an instructor of business courses, the author of this project/article believes that this approach brings a Kaizen (continuous improvement) attitude to education and helps in the identification of items that do not add value to the class.

Conclusion

This manuscript/project demonstrated that the Lean Model/approach can be successfully applied to business education. As the world continues to venture into unknown and uncertain times and eventually finds a way out of this public health crisis, faculty need to be open to the adoption of innovative teaching and learning methods in online classes. It has been demonstrated that the use of

Lean methods improves faculty response time, time, helps in acquiring communication and support from instructors, and provides flexibility and real-world connection between workplace and assignments. This project could help instructors and administrators working in business programmes in a post-COVID world.

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