

# Infusion and Diffusion in Learning Using Virtual Platform Higher Education: Experiences from Management Education



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*Business environment operating today offers only an infinitesimal time for decision making and to adapt oneself with this situation, swift change is required in the higher education. Present scenario also advocated the necessity to understand the generation Z who is differently motivated to learn. This creates a need among the higher education institutions to embark into different ways of knowledge sharing. The paper focuses on a hybrid approach portraying the use of virtual platform to offer an asynchronous and synchronous learning during the infusion and diffusion process of knowledge sharing in business schools, through pull strategy besides regular system of teaching.*

## 1. Introduction

Pedagogy in higher education has been revolutionizing itself with the situations persisting in the environment and more specifically based on the characteristics, attitudes and needs of the key stakeholder in the learning process. Today this prominence is shifted to the students who are the decision maker with regard to the choice of pedagogy, as the sole aim of any learning process is to disseminate the scientific, philosophical and ethical findings in a society to ensure the cultural transition with a desired value system. Different methods of infusion and diffusion have been adopted during different phases of evolution of learning, but at this juncture the relevance of using virtual platform to reach out to the learners is undebatable. These leaning initiatives are aimed at synchronizing the energies in an individual so that there existed cogency in the activities of mind, brain and other parts of the body: this leads to an individual acquiring Self Mastery. When the thought, emotions and action work in unison, the learner is able to apply the learning effectively. Hence it is of utmost necessity to match the pedagogy with the latent needs of learner, which would lead to learner satisfaction.

## 2. Towards a Dynamic Pedagogy

Stereotypic teaching methods followed traditionally in Indian education system may help in producing more of graduates but failed to develop and deliver, students with employability skills coupled with adequate knowledge blended with a right attitude, a newer learner centric pedagogy needs to be designed. Widening difference in learning styles among students calls for variation in the choice of pedagogy offered to learner along with the conventional class room teaching. The boredom and monotony developed by the static methodology of learning in the minds of learners leads to a deviant attitude. Hence there is a felt need to attract and retain students, offer and deliver input, realize the employability potential by making them professionals through continuous engagement in academic and non-academic activities. Hence institutions can offer a dynamic mode of learning incorporating a combination of pedagogy that can create an attitude of self-learning among learners; this can further develop into student transforming themselves through Self-Regulation and Self Mastery. This creates an aptitude for continuous learning in an individual.

## 3. Learning for Future

As world changes there develops a need to exhibit yet newer and specialized skill to maintain the competitive advantage in the industry. Individuals possessing the traditional skills shall fail in the complex world. As industry craves for additional skills to match the newer demand, institutes of higher education has to instantly venture out to create situations that develop the futuristic skill set among learners, hence virtual environment can offer support to academicians to offer a simulated environment to train learners through their preferred pedagogy and at the same time imbibe the quality of self-learning, self-regulation and self-mastery among them. This can well transform individuals to manage any uncertainties in VUCA world. Thus using Virtual platform to communicate to learners, a teacher is able to hone the futuristic skillset in students through a latent mode. At this juncture it is also vital to know about the learners who belong to GEN Z, to focus on the pedagogy to imbibe the right combination of skills using the appropriate technology and organizational capabilities. They have to inculcate the skillset for innovation, developing clarity, flexibility, micro tasking, and working as adaptive teams.

## 4. Generation Z

Gen Zers prefer to customize their lives according to their preferences rather than gather everything that they are exposed to; they are tech savvy owing to their exposure to the internet age. Research conducted by UMR Research Pty Ltd., Australia

based on a fieldwork done during the early 2012, revealed that technology is the key to communicate with Gen Zers. They use social media as way to learn and interact. Though Gen Z belonged to the digital generation, they are unaware and not bothered of the hidden online hazards, and exhibit deficiencies in managing their personal information online. They search information that are easily accessible and available fast and have the world on their palm, expecting to learn anything anywhere. They prefer simulated games, and are motivated by continuous grading, continuous feedback, clear goals, rewards, challenges, etc. Hence research points that customization is required even in the teaching and learning process in order to lure Gen Zers to access knowledge and ensure a long term impact.

Gen Zers are smart to be transformed into professionals who can deal with a lot of data and make decisions. Collaborative, and challenging project-based pedagogy influences them better as they are now interact well through social media which has become a part and parcel to their everyday life. These collaborative exercises convert the surface learning gained by them into deep learning and application of concepts in real life. However indirect means of repetition of contents through interactive and interconnected exercises have to be introduced to ensure long term retention. Hence technology based simulated, collaborative, interconnected and easily accessible exercises can ensure deep learning for Gen Zers. However to pull them to study, there exists a need to stress on relevance and application

## 5. Review of Literature

Online learning is a learning which takes place in a network; it could be the Internet or just a school's internal/closed net (Aarnio, 2002). The key objective to be ensured in an E- learning process is that the learner should be able to develop and visualize the concepts further with his own experiences, and needs to compare it with the knowledge gained, such learning leads to individual transformation through self-regulation, however e-learning does not mean that a student shall be completely devoid of support and motivation. The questioning and feedback possibility in the learning environment offers him the required support. Research on learning and teaching styles offer different view on pedagogical approaches required for the Gen Zers within the classrooms.

Dunn, Honigsfeld, Doolan, Bostrom, Russo, Schiering, Suh, and Tenedero, H. (2009), conducted a study based on Dunn and Dunn Model of Learning-Style Preferences among students pursuing higher education revealed that students whose learning styles matched with the teaching interventions showed a higher performance than students whose styles were not accommodated. Hence educational interventions should be made compatible with preferences of students to ensure academic achievement. The case stands true especially to Gen Zers. Dunn and Dunn (1993), noticed that some students achieved knowledge only through selective methods. The researchers highlighted many elements that influence learning styles: environmental, emotional, sociological, physical and psychological elements. According to them learning styles represented individual characteristics and strengths that foster or inhibit achievement, though students could describe their preferences and they could not identify the elements that did not affect them, however the elements they preferred were their strengths. Felder and Henriques (1995), conducted a study on learning styles and found that individuals acquired, retained, and retrieved information were collectively termed as the individuals' learning styles. According to the research mismatch between learning styles in students and the teaching style of the teacher would adversely affect the quality of the students' learning and on their attitudes towards the class and the subject. Hence addressing the pedagogical interest of students had been suggested as of utmost importance.

Joy Reid (1995) found that Learning styles were influenced by characteristics of individuals. Learners differed in their preferences; few preferred visual presentations while others preferred spoken language or might desire hands-on activities. Passmore (1995), conducted a study on distance education learning and found that the technology had improved education by making it more accessible, hence teachers needed to focus on improving learning that took place. Kazemek and Rigg (1997), suggested the need to be narrative by incorporating images and imagination in the pedagogy. That was done by sharing stories. Visual and musical art enhanced the storytelling, and involved other intelligences.

Willis (2003), conducted a study on virtual learning, the study pointed out the importance of student's learning style, online learning preferences, and to design a tailor-made online learning to the student's acknowledged needs.

Tushar Chaudhary (2012), conducted a review on E-Learning by collecting data from 80 students from Commerce, Arts, Science and Engineering streams. From among a sample of 80 respondents 25% of Arts students had knowledge about internet, 70% of Commerce students, 80% of Science students and 95% of Engineering students had knowledge about internet. It clearly showed that majority of Engineering students were interested in learning using technology when compared with other stream students.

Omidiora, Olabiyisi, Okediran, and Isiaka (2013), studied using the Neuro-Fuzzy model that was being simulated in MATLAB 7.0 Toolbox environment. After it had been adjudged to be satisfactory, it was integrated into Moodle LMS for implementation. A lesson was constructed; transformation rule and assessment plan were set. Finally, students were enrolled and their activities automatically monitored. It concluded that the approach would alleviate the problems of timeliness, accuracy and reliance on the commitment of the human teacher associated with visualization approaches.

Waldman, Heneghan and Litzinger, also presented a teaching scenario to show how a more traditional case study of legal and ethical concerns in business could be presented to students as part of the broader context of study for currently newsworthy events. Course activities and classroom discussion were complimented with e-learning and students found additional information to those interesting cable and internet news stories which created interest in most students. Chen and Shiu-Sheng (2006), studied perspectives on teaching international macroeconomics and finance whether there was more consensus in choice of subjects in the 2000s. This paper investigated the then prevailed state of teaching in international

macroeconomics and finance. It was shown that regarding the selection of topics and readings in the 2000s, there seemed to be substantial agreement on which topics should be taught and which articles were deemed most essential to improve the standard of the learners.

Mohammad and Abbas (2003), studied the causes and implications of declining economics major. The observed pattern of the downward spiral in economics could also be explained by using aspects of the theory of consumer behaviour: i.e. the income and substitution effects. The income effect could be conceived as the students' of economics being less real world oriented than courses in business and related disciplines, which seemingly enhanced their job prospects. The substitution effect results from the students' perception of a 'user-friendly' learning process of the rival degree programs which meant that the relatively expensive learning process in economics implied a substitution away from it.

Joshi and Choudhary (2013), studied on pedagogical changes enforced by popularity of social networking sites in management studies and stated that everyone was a complete company by himself or herself and had unlimited power in the hand. It had become indispensable to the younger generation to go away from the clutches or power game of internet. With most campus beaming with Wi-Fi connectivity or classroom with laptops to every student, the greatest change and the greater challenge for the current education system would be the interference of social media in the classroom teaching and clearly stated that it would be the trend to adopt the technological advancements into the pedagogy.

Szpunar, Moulton and Schacter (2013) did their work on theoretical and empirical grounds; found there was good reason to think that mind wandering was particularly prevalent in educational settings. Secondly, mind wandering was particularly relevant to education because learning depends critically on attention in ways that other activities did not. They suggested that any method that worked out to increase the participation and creativity would definitely bring out better output. Hence the online learning platform can create complete attention when compared to the mind wandering prevalent in general classroom learning.

Mahar and Paul (2010) stressed the use of sports to teach finance and economics, the article discussed about opportunity costs, risks and incentives, expected monetary returns vs. utility, executive compensation, sunk cost, diversification discount, measuring manager performance etc., and concluded that the examples were designed to generate student interest and learning by creating a mental link from what was known to what was unknown (from sports to finance). The examples had been used in their classes and did generate interest and discussion leading to an added benefit of showing students that economics and finance theory were much more accessible than they had previously thought.

Weaver, Viper, Latter and McIntosh (2010), explained the off campus students' experiences collaborating online, using wikis. An online group project for off-campus students, using wikis as the collaborative platform, had been running for several consecutive study periods and had successfully provided an opportunity for students to build social bonds with peers online.

Hence pedagogy should match with the differential strengths of students which are much possible by adopting a Hybrid approach for the students to choose from using an Online Learning Platform (OLP) very similar to social media incorporating the features besides including other added advantages. Thus ensuring a 24x7 virtual class room activities would enable the students to learn better and also avail the peer support offline and help the learners, to focus much on realisation of their fullest potential.

## 6. Growth of Virtual Learning

Online learning and using social media are gaining importance among the knowledge seekers. Information and communication technology makes it possible and an effective area for the innovators and scientists work on. Though there is a distress situation, there lies a greater opportunity for the growth in online learning programme. Information and communication technology (ICT) has taken a great leap when the industry switches over to mechanisation and modernisation later to digitization. Human resource is depending mostly on ICT based gadgets for all their communications and teaching learning process is no exception to it. Technology training appears to focus mainly on technology knowledge and skills while overlooking the relationships between technology, pedagogy, and content (Geer & Sweeney, 2012). As a result, teachers learn how to use technology, but they still have difficulty in applying it for their students' learning. As a parent and an educator, one can see that many young learners seem to spend a lot of time with the television, mobile gadgets and the computer. When given some projects, they provide information collected from the Internet instead of the textbook. Therefore it is high time for the educators to optimally utilize this technology and source in a disguised situation and should not dampen the source stating that media will not be allowed to teach the students. Learners always prefer to use asynchronous learning mode which provides ample scope for learning pace and choice of time. Time and frequency of usage is also unlimited and learner can choose to use or not to use. OLP also provides opportunity to share the contents with peer. This also provides scope to validate the contents with the help of experts. Additional learning, distance learning, supportive learning, add on courses and training for skills set are the added advantage that can be achieved through Virtual learning. The major requirement for an effective usage of Virtual learning is the availability of hardware and software pushed into the market as gadgets or widgets.

### ICT Widgets

Widgets and gadgets are available for windows and androids and many downloads are available for the users of ICT. There is a greater scope for development of widgets based on need and requirement, convenience, user friendliness and so on.

### **Online Portals**

Online portals are privately managed resource centers from where the learners could take benefit and dynamically work with the portal and make the online experience as asynchronous learning. Number of educational institutes is having dynamic web portals while few of the portals are using semantic web networks.

### **Virtual Class Rooms**

Online portals exclusively used by individual institutions or collectively used under cloud environment as virtual class rooms. The discussion materials covering the syllabi and included in the regular pedagogy is also made available for the learners off the class room through online portals, and are very much work as virtual class room. Video lectures, power point presentations, documents, quiz, question bank etc are available in the virtual class room. Virtual class room with audio and video is very similar to class room environment and students away from the class room also able to access to the class room activities. Asynchronous learning is likely to take place in such occasions.

## **7. Antecedents of Virtual learning**

Studies by (Arbaugh, 2000 a) among students of business schools indicated an increased discussion pattern during virtual learning when compared to conventional classroom learning, hence the success of virtual learning in generating and sharing ideas can be established. (Arbaugh, 2000 b) examined the satisfaction of learners on technological and pedagogical parameters of the virtual classroom, the results indicated that usefulness, perceived flexibility of usage and creation of interactive environment by the instructors were the characteristics that were strongly associated with student satisfaction. However the virtual learning platform is not devoid of challenges and constraints. The success of the online learning also depends on instructor-student, student-student, and student-content compatibility. Apart from that being at work, family flexibility, personal characteristics play an added benefit for virtual learning. Marks, Sibley, & Arbaugh, (2005) found that trainer- learner interaction is most important, twice that of learner-learner interaction; Hence Teachers play an important role to imbibe latently the futuristic skillset through virtual learning.

## **8. Infusion and Difussion**

This mainly attempts to use gadgets and widgets to infuse the learner with required input, variety of information to improve latent thinking, frequent reach to maintain his linkage and finally to make him to imbibe some quality information through constant practices of using those widgets. Mobile apps, computer apps are making this possible so that when they are often on social networks, undisturbed interventions slowly make him sensitive to the reading materials as required for his programme.

### **Infusion through Widgets**

Apps are supposed to be the media of reach to the learner and make him to frequently use those widgets to access to the portals, serving as source of information. More sensitized learner will have the advantage of good and right access to the relevant materials and happy about the usage.

### **Infusion Drivers**

Technology, user friendliness, ease of access, wider interface acceptance, cost effectiveness, bandwidth, availability of variety of academic resources and interest over the possession and dissemination, pride of sharing the information are few important drivers resulting in good infusion among the learners.

### **Learning Platform**

Domain specific and Learner centric platform is desirable to promote online learning and improving the quality.

### **Mobile Apps**

Besides windows apps, mobile apps are picking up faster among the learners. Though the main purpose of holding such apps are for keeping their social platform active, it is up to the teachers to think how best they can use this channel of information dissemination for teaching learning process.

### **Gaming**

It is yet another method of teaching the management students to understand the concepts in a simple and interesting way through involvement of students in groups, simultaneously developing team spirit.

### **Simulations**

Computerized simulated exercises are also playing as one of the important driver to attract the learners to use and learn. There are numbers of advancements flooding the market every day and the learners are either purchasing or download from free download websites if not priced.

### **Diffusion**

Diffusion is the process by which the learner is inspired and moved forward to share and disseminate the learning to his peers.

## 9. Findings

Use of Virtual learning, enabled learners to have access to a variety of learning experiences and incorporate a practical learning approach due to synchronisation of facilitator support, digital resources, e library, networking with subject experts, interaction with peers within the campus as well as from other educational institutions enrolled in the OLP etc, incorporating the convenience, accessibility across a variable time period, unlike the traditional structured pedagogy, learning materials and time concept. This ensured a customized student engagement activity.

### Priorities of Learners

Learning happens when students develop self-efficacy, self-regulation and Self Mastery - this could be maintained at a higher level by developing interest and curiosity among students or learners. Learners may have different levels of self-efficacy and traditional learning methodologies required teachers to segregate the groups and offer differential learning, inability to symmetrise the groups often led to assumption that self-efficacy is immutable, however using OLP, personalised, yet collaborative and curiosity kindled learning can be offered to students, thereby Self efficacy could be improved creating a domino effect in reinforcing effort and persistence among students (Margolis & McCabe, 2003). If the self-efficacy needs of the learner are not addressed, learning may impede (Bandura, 1993). However high self-efficacy among students can also hamper their learning if the tasks performers are not intrinsically motivated (Zimmerman, 2000). Inability of a teacher to optimise the support offered to students with less self-efficacy, by offering more support than required, can create a feeling of incompetency and reduces the motivation to learn (Schunk, 2001). Hence it is of utmost importance to understand the learners' priorities in terms of support required, learning styles and patterns to ensure effective learning.

### Pedagogy and Delivery Mode

The Pedagogy comprised of combination of content based on learner needs, strategic development of pedagogy ensures the success of a programme. OLP offers teachers greater freedom to use multiple pedagogical tools and delivery modes, according to the choice of learners based on their learning styles. Few researchers pointed that OLP offered an asynchronous learning unlike traditional learning which offers a synchronised learning (Black, 2002), hence not a stable option (Noble, 1998) though the benefits of OLP is comparatively more than its demerits. However with the introduction of Web 2.0, OLP offered synchronous learning. To make OLP effective it is not sufficient to ensure that technological are put in place, the pedagogy has to focus on goals, objectives, and expectations for the learners (Song, Singleton, Hill & Koh, 2004).

### Access and Convenience

OLP offered online access, where students have the freedom to access information wherever he is present, they are dynamic on offering knowledge in different formats as preferred by the learner from time to time, however learners familiarised with static learning may experience time management issues. Flexibility (Petrides, 2002) and Convenience (Poole, 2000) was the key advantage of using OLP in learning process, however feeling of isolation predominated in OLP (Vonderwell, 2003), Continued usage of OLP shall ensure adaptability of educators and students towards learning at a distance (Ellis & Phelps, 2000). Technological advancement has created synchronised learning possible in OLP; hence the issues of feeling alienated can be overruled.

### Availability

OLP encompassed with live event that motivated learners towards self-learning (Singh, 2003). availability of applications such as Blogging, Instant messaging, and the availability of ample interaction with peers, subject experts and teachers coupled with mentoring facilities would trigger increased interest towards Online learning, this could have an intense effect on overall satisfaction which would encourage more learners enabling better learning and self-efficacy among learners.

### Preference

Preferences for OLP can be enhanced by focussing on quality and thoroughness of the design and delivery for ensuring positive online learning experience, creating an environment of intrinsic motivation among the learner, developing time management skills, and comfortableness with online technologies. This could impact the success of an online learning experience (Black, 2002). Awareness has to be created among teachers to understand adult learning theory and learning styles to design the course content effectively. These shall serve as catalyst for better preferences for OLP (Aragon, Johnson, & Shaik, 2002).

### Hybrid Model of Pedagogy

Nowadays the developments in different modes of course delivery are making increased use of the internet through World Wide Web. Therefore a need for experimenting web-based course delivery along with the conventional class room delivery is felt and a hybrid model of combining both was found satisfactory in the institution where the case study was adopted. Teachers are to be sensitized to work more on online teaching along with regular class room coaching and for which factors such as course content, student characteristics and teacher competencies are to be considered well for successful implementation of online learning and enhancing the quality of education for professional students.

## 10. Conclusion

It is concluded that more number of studies has to be conducted to introduce online learning among learners of business programme and to increase the infusion of knowledge for better quality enhancement. Once the learners are satisfied the diffusion takes place among peer as well as in vertical mode with experts upward and with juniors at the succeeding level.

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