PEDAGOGICAL BARRIERS OF E-LEARNING IN INDIAN HIGHER EDUCATIONAL SECTOR

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Abstract

E-Learning environment is not simply a technical matter rather demands the consideration of several factors and removal of different types of barriers faced by stakeholders. One of the major barriers in implementation of e-learning is pedagogical barriers. The pedagogical barriers need to be identified and eliminated to harness the true potentials of e-learning. This survey research aims to identify these barriers perceived by the stakeholders of higher education. The research methodology of this paper follows descriptive approach using mixed method approach combining content analysis and descriptive quantitative analysis. The findings of this study indicates that lack of face to face communication, feeling of isolation, limited possibilities of enquiry based and project based learning are major pedagogical barriers to implement e-learning. Respondents also indicated that e-Learning does not suit to all teaching learning styles there by do not accommodate all kinds of teaching pedagogies. Removal of these barriers is an important factor, if the policy makers need to successfully implement e-learning in the higher education sector in India.
Key words: E-learning, Higher Education, Pedagogical Barriers, Teaching-Learning,

INTRODUCTION AND RATIONALE

In e-learning, the most significant barriers perceived by the faculty included poor internet access by students and lack of training on e-learning, followed by lack of institutional policy and instructional design for e-learning. The important motivators included personal interest to use technology, intellectual challenge, and sufficient provision for technology infrastructure (Panda & Mishra 2007; Miglani & Awadhiya 2017). Although implementation of e-learning in Indian higher education sector has manifold benefits, there exists some pedagogical barrier which prohibits successful implementation of e-leaning. This study will be beneficial for policymakers of today and tomorrow for creating a suitable environment for the growth of e-Learning in Indian context specifically and for the world in general. The pedagogical barriers of e-learning due to the limitations like lack of face to face communication, difficulty in project based learning, isolated feelings of learner etc., studied in this study shall be of a great help to overcome the limitations for successful implementation of e-learning.

LITERATURE REVIEW

India faces a number of obstacles to the spread of digital learning initiatives and one of the important obstacles is pedagogical obstacle. Ghulam Muhammad Kundi *et al.,* (2010), stated that one of the challenges facing instructional designers is in producing e-Learning systems, which take account of individual differences such as cognitive learning style. Research shows that teachers do not find e-Learning environments matching with their teaching styles (see Mehra & Mittal, 2007). However; web-based learning is worldwide accessible, low in maintenance, secure, platform-independent, and always current and can accommodate various learning styles (Patel et al., 2011). Ahmad Al-adwan *et al.,* (2012) stated that instructors

and students must possess specific skills to use various e-Learning tools successfully. Students may demonstrate their learning efforts via different types of technology such as text, video or audio devices. Instructors often need to restructure their courses to incorporate e-Learning successfully (Pirani, 2004). These activities represent challenges that all groups must overcome to succeed in e-Learning.

Poor design of the e-learning courseware is a major issue for learners and e-learning providers, as pointed out by Ivergard & Hunt (2005). Since e-learning is designed basically for the ICT savvy, it may be too technical for ICT novices (James-Gordon, Young & Bal, 2003). Angelina (2002b, p.12) also stressed the importance of ensuring equality of access to learners from all backgrounds and walks of society. Lacking physical interaction is another limitation in e-learning. Schott et al. (2003) expressed that the lack of physical interactions made e-learning students feel isolated and apprehensive. Lacking physical interaction may also affect the completion rate (Haigh, 2004). Although, e-learning comes with benefits such as unlimited access 24 hours, 7 days a week, this privilege does not seem to be feasible for some people in rural areas due to the inability to access Internet services (Kearsley, 2000; Rumble,2000). E-learners should be Information & Communication Technology (ICT) savy. Hamid (2002) stated that technical skills could cause frustration to e-learning students due to the unconventional e-learning environment and isolation from others. Consequently, having to learn new technologies may be a barrier or disadvantage in e-learning for ICT novices. Kearsley (2000) mentioned that e-learning provides autonomy to learn, but the learners should have "initiatives and self-discipline to study and complete assignments." Learning environments are evolving rapidly in terms of tools, techniques and standards. There are major pedagogical, technological and evaluation issues that must be

addressed in deploying the above technologies. The literature review indicates that pedagogical factors play an important role in successful implementation of e-learning in higher education. In case of Indian higher education system, there are many pedagogical barriers which needs to be identified and efforts needs to be deployed to remove or reduce these barriers, so that real potential of e-learning can be materialized.

RESEARCH DESIGN AND METHODOLOGY

The population of this study comprised of all the learners, faculties and administrators associated with formal higher education institutes in India which have adopted e-Learning practices. It has been observed that most of the e-Learning practices have been adopted by distance and open learning institutions and traditional institutions imparting education through face to face mode are using less e-Learning practices. So, institutes offering formal higher education through distance and open mode and which have adopted e-Learning practices falling within the basic periphery of this research work.

Initially, it was decided to collect the data from various learners, faculties and administrators associated with distance and open learning institutes in formal higher education across the India. Accordingly, data collection instrument was instituted online using docs.google.com service. But looking to the poor response on the same in spite of repeated reminders, it was decided to go offline for collecting the required data. In course of decision on sample respondents, it was decided to consider learners, faculties and administrators associated with Indira Gandhi National Open University (IGNOU), which can be considered justifiable as discussed hereinafter. At the point of time when data collection was initiated, out of the total number of students registered with distance education institutions in India, as high as 68.3% were registered with IGNOU. Further, the selection of learners, faculties and administrators as national representativeness of learners, faculties and administrators associated with open and distance education in this country was also justified from the point that IGNOU offers open and distance education for a variety of programs ranging from certificate programs to degree programs, under-graduate programs to post-graduate programs, technical programs to management programs, etc. Due to non-feasibility of off-line data collection from across the country in terms of time and money and national representativeness of learners, faculties and administrators associated with IGNOU for those associated with open and distance education in this country, it was decided to collect the required dataset from the learners, faculties and administrators associated with IGNOU. Required data was collected from a total of 300 learners and 200 faculties and administrators associated with IGNOU and sampling method can be best described as non-probabilistic convenient cum purposive sampling.

This paper is a component of a large pragmatic empirical study conducted to explore the different kind of pedagogical barriers to implement e-learning in Indian HE system. The barriers investigated in the large study included Technical, Procedural,

Pedagogical, Attitudinal, financial and administrative/ institutional barriers. For the purpose of meeting the various objectives under consideration, both secondary data and primary data is collected and analyzed. Secondary data is collected through various websites, institutional publications, journals and government publications of repute and prominence, and primary data has been collected through structured survey instrument (questionnaire) from learners, faculties and administrators associated basically with Indira Gandhi National Open University (IGNOU). For the purpose of collecting the required primary data, self-structured survey instrument was developed and instituted, which was developed on the basis of extensive review of existing literature. Though data has been basically collected from the learners, faculties and administrators associated with Indira Gandhi National Open University (IGNOU), detailed structured interviews of faculties and administrators of identified institutes/ organizations offering formal higher educational courses through e-Learning have also been considered to support the results of data analysis. The methodology adopted for this paper follows descriptive approach using mix method approach combining content analysis and quantitative analysis. Content analysis was conducted to identify possible pedagogical barriers in implement e-learning in higher education. These possible pedagogical barriers were then presented to the stakeholders through survey questionnaire after due process of content validity and reliability testing. Content validation was done by the experts' review; however the reliability testing was done using Cronbach alfa. Questionnaire was circulated to the survey population consisting of learners, teachers and administrators from the HEIs who have incorporated e-Learning practices in their respective areas of work. The final survey questionnaire aimed to investigate the views of the learners, teachers and administrators on various factors as listed in results and discussion. Convenient sapling method was adopted in this study and the survey questionnaire was administered using Google forms. Required data was collected from a total of 300 learners and 200 faculties and administrators. Descriptive statistical techniques were used to analyse the data.
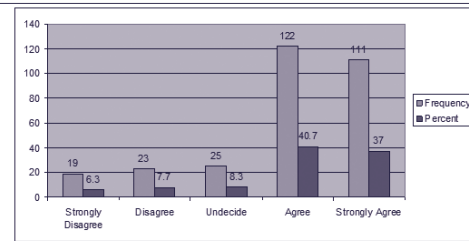
DATA ANALYSIS

Analysis of the data received from 300 learners and 200 faculties and administrators is presented in this section. The questions given to faculties, administrators and students were same to understand the perspectives, views and experiences to ascertain the real response on same problem. The number of 300 learners and 200 faculties and administrators was chosen based on the most possible availability of sample accommodating maximum responses from desired corners.
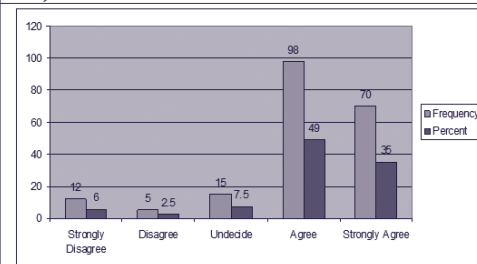
A. Face to face communication is critical for HE and it is not available for e-Learning.

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:
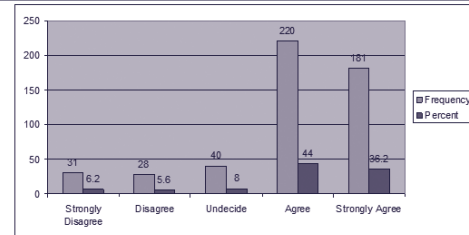
learners Response (Chart 1A)

faculties and administrators Response(Chart 1B)

Combined response   (Chart 1C)

Mean and Standard Deviation (Table 1)

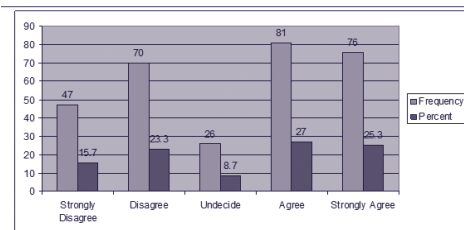|	VAR05	Face to face communication is critical for higher education and it is not available for e-Learning		
N	Valid	300	200	500
	Missing	0	0	0
Mean		3.9433	4.045	3.984
Std. Deviation		1.15379	1.03359	1.10734

Chart 1A above exhibits that out of 300 learners, 122 learners (40.7%) agreed and 111 learners (37%) strongly agreed that face to face communication gives huge behavioural impact on the learners. It means, 77.7% of the learners believe that this is a major limitation. Similarly, at Chart 1B it can be seen that out of 200 faculties and administrators, 98 respondents (49%) agreed and 70 respondents (35%) strongly agreed that it is a key problem. Overall 80.2% of respondents comprising of 220 respondents (representing 44%) having agreed, and 181 respondents (representing 36.2%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 1C above justifies the similar outcome. The associated mean value of 3.984 (as shown in table above) is also indicative of the same.

B. Isolation of learner results in lack of direction thereby de-motivates learners for e-Learning.

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:

learners Response(Chart 2A)

faculties and administrators Response(Chart 2B)

Combined response   (Chart 2C)

Mean and Standard Deviation (Table 2)

	VAR07	Isolation of learner results in lack of direction thereby de-motivates learners for e-Learning		
N	Valid	300	200	500
	Missing	0	0	0

Chart 2A above exhibits that out of 300 learners, 81 learners (27%) agreed and 76 learners (25.3%) strongly agreed that isolation of learner results in lack of direction thereby de-motivates learners for e-Learning, and is one of the key problems associated with e-Learning. It implies that 52.3% of the learners believe that this is one of the major problems associated with e-Learning. Similarly, at Chart 2B above it can be seen that, out of 200 faculties and administrators, 45 respondents (22.5%) agreed and 57 respondents (28.5%) strongly agreed that it is a key problem. Overall 51.8% of respondents comprising of 126 respondents (representing 25.2%) having agreed, and 133

respondents (representing 26.6%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 2C above justifies the similar outcome. The associated mean value of 3.226 (as shown in table above) is also indicative of the same.
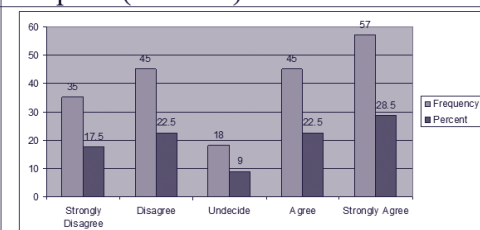
C. Enquiry based learning is not possible with e-Learning

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:
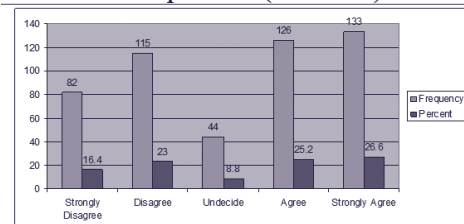

learners Response (Chart 3A)

faculties and administrators Response(Chart 3B)

Combined response (Chart 3C)

Mean and Standard Deviation (Table 3)

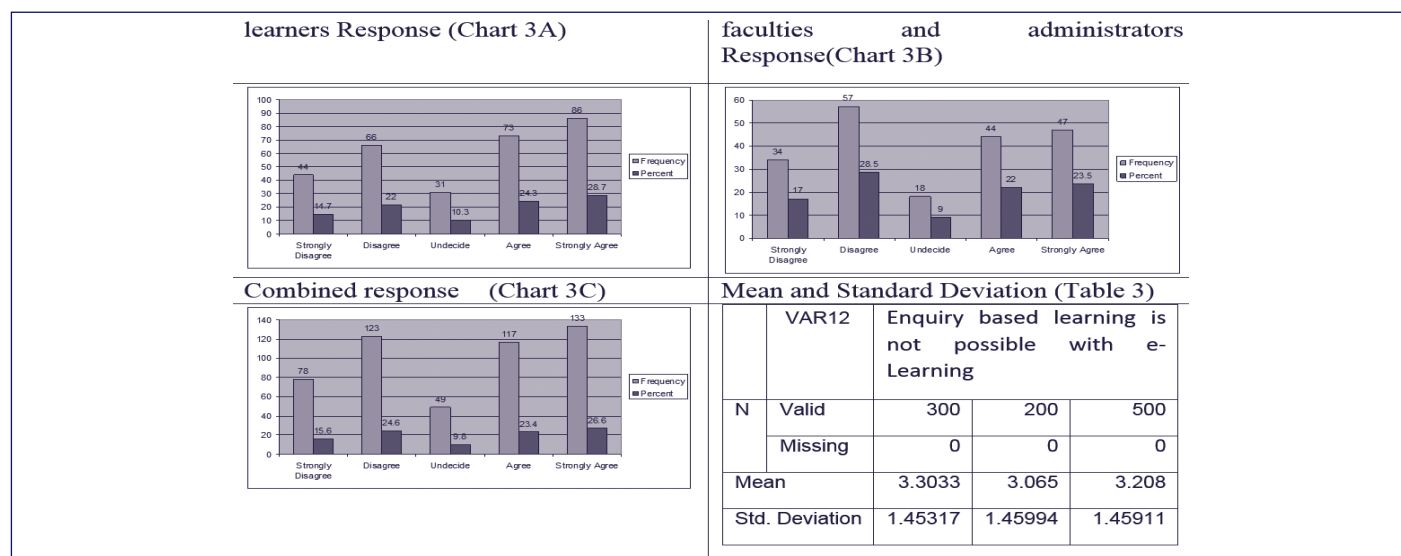|	VAR12	Enquiry based learning is not possible with e-Learning		
N	Valid	300	200	500
	Missing	0	0	0
Mean		3.3033	3.065	3.208
Std. Deviation		1.45317	1.45994	1.45911

Chart 3A above exhibits that out of 300 learners, 73 learners (24.3%) agreed, and 86 learners (28.7%) strongly agreed that enquiry based learning is not possible with e-Learning, and this is one of the key problems associated with e-Learning. It implies that 53% of the learners believe that this is one of the major problems associated with e-Learning in higher education in India. Similarly, at Chart 3 B above it can be seen that, out of 200 faculties and administrators, 44 respondents (22%) agreed and 47 respondents (23.5%) strongly agreed that it is a key problem. Overall 50% of respondents comprising of 117 respondents (representing 23.4%) having agreed, and 133

respondents (representing 26.6%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 3C above justifies the similar outcome. The associated mean value of 3.21 (as shown in table above) is also indicative of the same.

D. Project based learning is not possible with e-Learning

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:

learners Response (Chart 5A)

faculties and administrators Response (Chart 5B)

Combined response (Chart 5C)

Mean and Standard Deviation (Table 5)

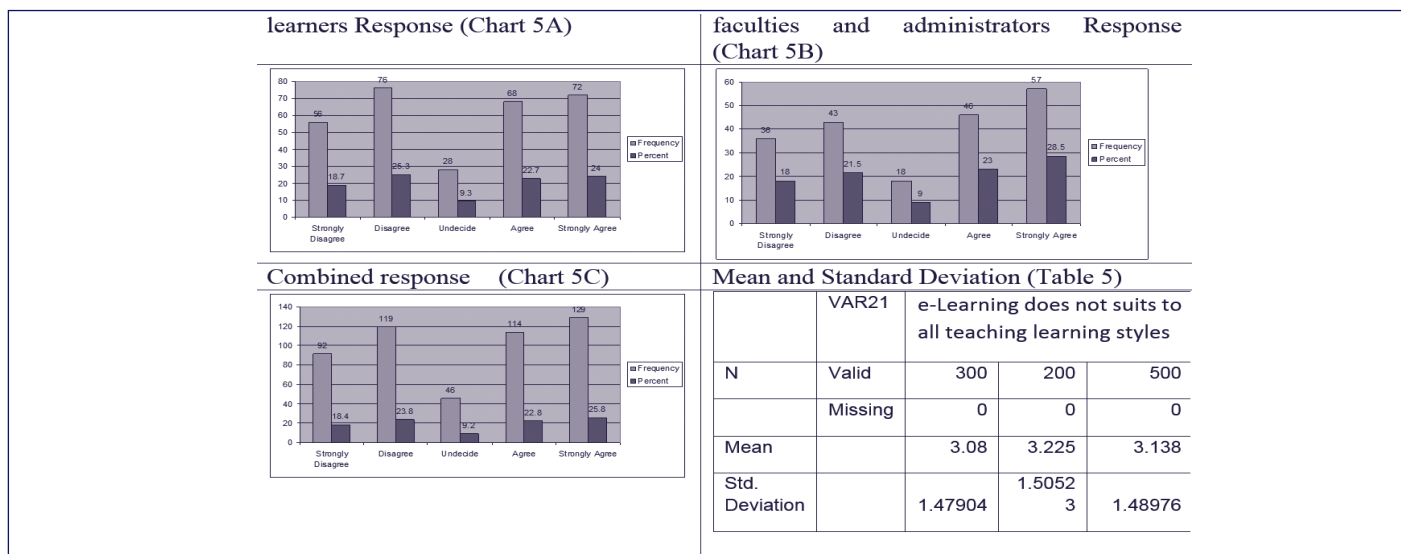|	VAR21	e-Learning does not suits to all teaching learning styles		
N	Valid	300	200	500
	Missing	0	0	0
Mean		3.08	3.225	3.138
Std. Deviation		1.47904	1.50523	1.48976

Chart 4A above exhibits that out of 300 learners, 53 learners (17.7%) agreed, and 59 learners (19.7%) strongly agreed that Project based learning is not possible with e-Learning, and this is one of the key problems associated with e-Learning. It implies that 37.4% of the learners believe that this is one of the major problems associated with e-Learning. Similarly, at Chart 4B above it can be seen that, out of 200 faculties and administrators, 39 respondents (19.5%) agreed and 40 respondents (20%) strongly agreed that it is a key problem. Overall 38.2% of respondents comprising of 92 respondents (representing 18.4%) having agreed, and 99 respondents

(representing 19.8%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 4C above justifies the similar outcome. The associated mean value of 2.844 (as shown in table above) indicates that Project based learning is possible with e-Learning.

E. e-Learning does not suit to all teaching learning styles

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:

learners Response (Chart 5A)

faculties and administrators Response (Chart 5B)

Combined response (Chart 5C)

Mean and Standard Deviation (Table 5)

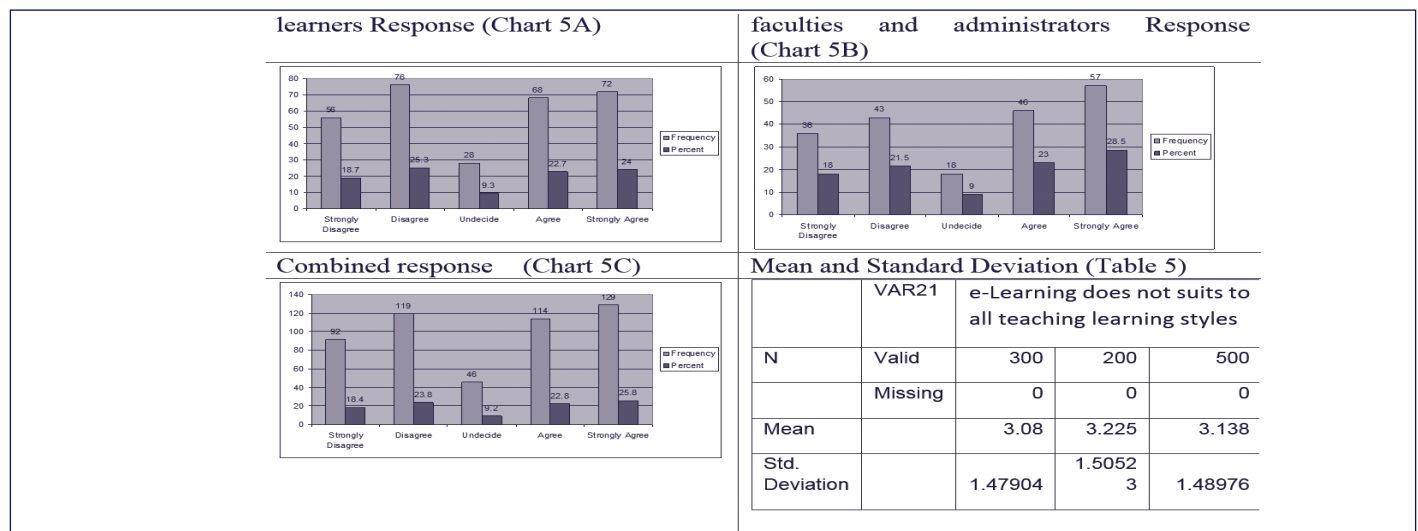|	VAR21	e-Learning does not suits to all teaching learning styles		
N	Valid	300	200	500
	Missing	0	0	0
Mean		3.08	3.225	3.138
Std. Deviation		1.47904	1.50523	1.48976

Chart 5A above exhibits that out of 300 learners, 68 learners (22.7%) agreed and 72 learners (24%) strongly agreed that e-Learning does not suits to all teaching learning styles, and this is one of the key problems associated with e-Learning. It implies that 46.7% of the learners believe that this is one of the major problems associated with e-Learning. Similarly, at Chart 5B above it can be seen that, out of 200 faculties and administrators, 46 respondents (23%) agreed and 57 respondents (28.5%) strongly agreed that it is a key problem. Overall 48.6% of respondents comprising of 114 respondents (representing 22.8%) having agreed, and 129 respondents

(representing 25.8%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 5C above justifies the similar outcome. The associated mean value of 3.138 (as shown in table above) is also indicative of the same.

F. e-Learning does not accommodate all kinds of teaching pedagogy.

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:

Learners Response (Chart 6A)

faculties and administrators Response (Chart 6B)

Combined response (Chart 6C)

Mean and Standard Deviation (Table 6)

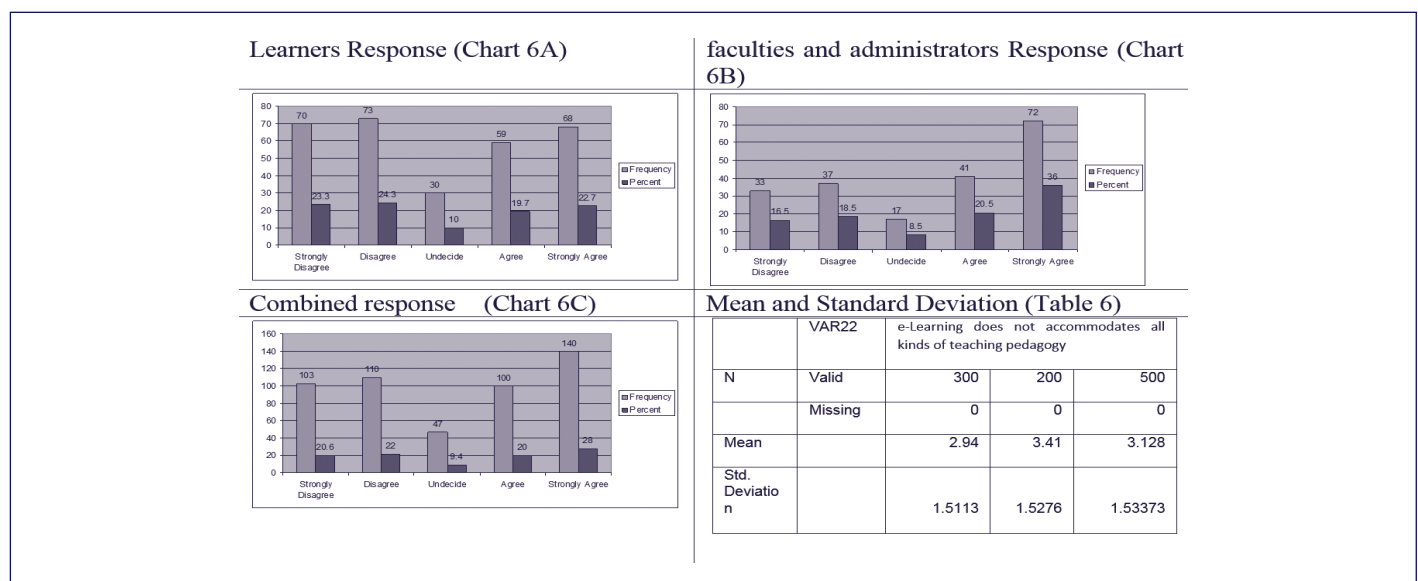|	VAR22	e-Learning does not accommodates all kinds of teaching pedagogy		
N	Valid	300	200	500
	Missing	0	0	0
Mean		2.94	3.41	3.128
Std. Deviation		1.5113	1.5276	1.53373

Chart 6A above exhibits that out of 300 learners, 59 learners (19.7%) agreed and 68 learners (22.7%) strongly agreed that e-Learning does not accommodates all kinds of teaching pedagogy, and this is one of the key problems associated with e-Learning. It implies that 42.4% of the learners believe that this is one of the major problems associated with e-Learning in higher education in India. Similarly, at Chart 6B above it can be seen that, out of 200 faculties and administrators, 41 respondents (20.5%) agreed and 72 respondents (36%) strongly agreed that it is a key problem. Overall 48% of respondents comprising of 100 respondents (representing 20%) having agreed, and 140

respondents (representing 28%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 6C above justifies the similar outcome. The associated mean value of 3.128 (as shown in table above) is also indicative of the same.

G. e-Learning doesn't facilitate content flexibility as per the need of learners/faculty/ administrator.

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:

learners Response(Chart 7A)

faculties and administrators Response(Chart 7B)

Combined response (Chart 7C)

Mean and Standard Deviation (Table 7)

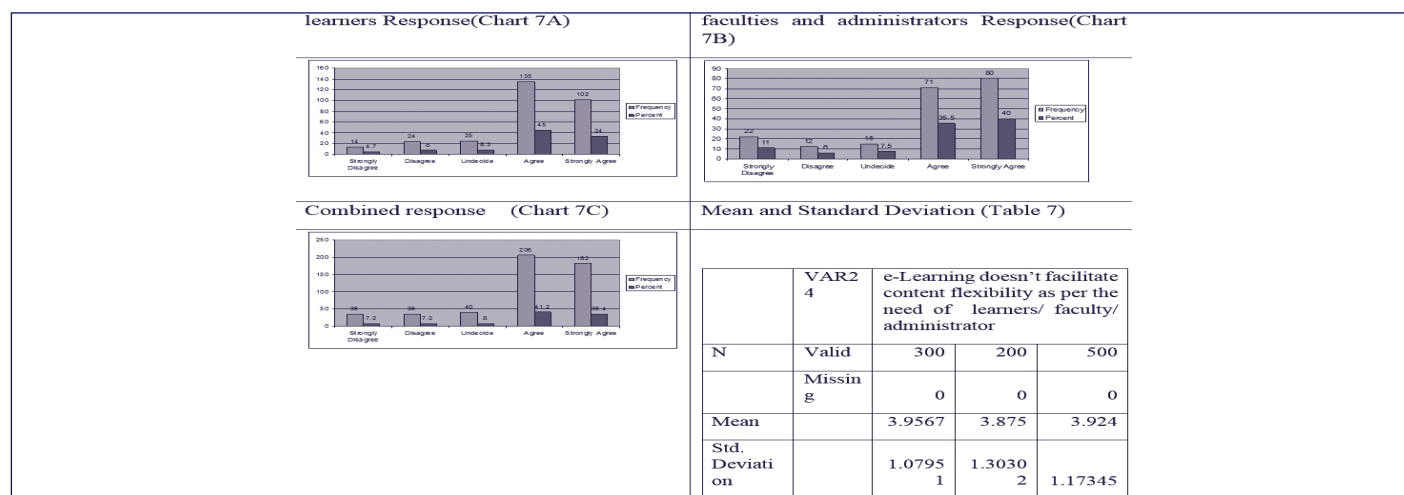|	VAR24	e-Learning doesn't facilitate content flexibility as per the need of learners/ faculty/ administrator		
N	Valid	300	200	500
	Missing	0	0	0
Mean		3.9567	3.875	3.924
Std. Deviation		1.07951	1.30302	1.17345

Chart 7A above exhibits that out of 300 learners, 135 learners (45%) agreed and 102 learners (34%) strongly agreed that e-Learning doesn't facilitate content flexibility as per the need of learners/faculty/ administrator, and this is one of the key problems associated with e-Learning. It implies that 79% of the learners believe that this is one of the major problems associated with e-Learning. Similarly, at Chart 7B above it can be seen that, out of 200 faculties and administrators, 71 respondents (35.5%) agreed and 80 respondents (40%) strongly agreed that it is a key problem. Overall 77.6% of respondents comprising of 206 respondents (representing 41.2%) having agreed, and

182 respondents (representing 36.4%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 7C above justifies the similar outcome. The associated mean value of 3.924 (as shown in table above) is also indicative of the same.

H. e-Learning limits the quality of content

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:

learners Response (Chart 8A)

faculties and administrators Response (Chart 8B)

Combined response (Chart 8C)

Mean and Standard Deviation (Table 8)

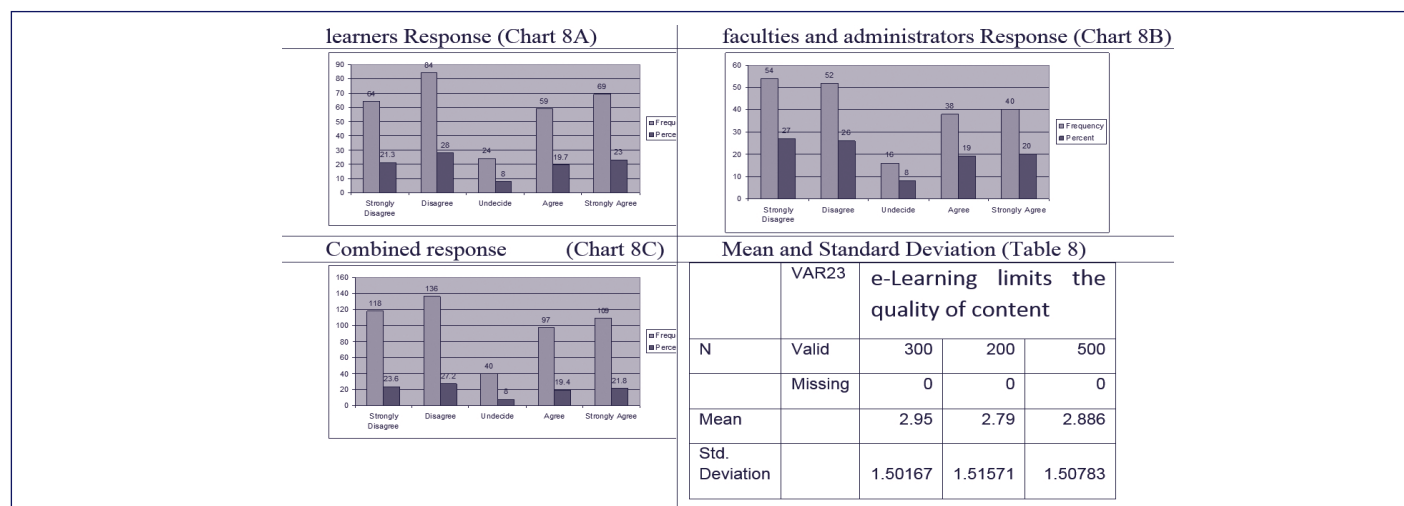|	VAR23	e-Learning limits the quality of content		
N	Valid	300	200	500
	Missing	0	0	0
Mean		2.95	2.79	2.886
Std. Deviation		1.50167	1.51571	1.50783

Chart 8A above exhibits that out of 300 learners, 59 learners (19.7%) agreed and 69 learners (23%) strongly agreed that e-Learning limits the quality of content and this is one of the

key problems associated with e-Learning. It implies that 42.7% of the learners believe that this is one of the major problems associated with e-Learning. Similarly, at Chart 8B above it

can be seen that, out of 200 faculties and administrators, 38 respondents (19%) agreed and 40 respondents (20%) strongly agreed that it is a key problem. Overall 41.2% of respondents comprising of 97 respondents (representing 19.4%) having agreed, and 109 respondents (representing 21.8%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 8C above justifies the similar outcome. The associated mean value

of 2.86 (as shown in table above) indicates that e-Learning does not limits the quality of content.

I. Not all learners/faculty/administrator are skilful in language(s) required for e-Learning

The responses collected from the sample respondents including learners and faculties and administrators have been exhibited in charts below:
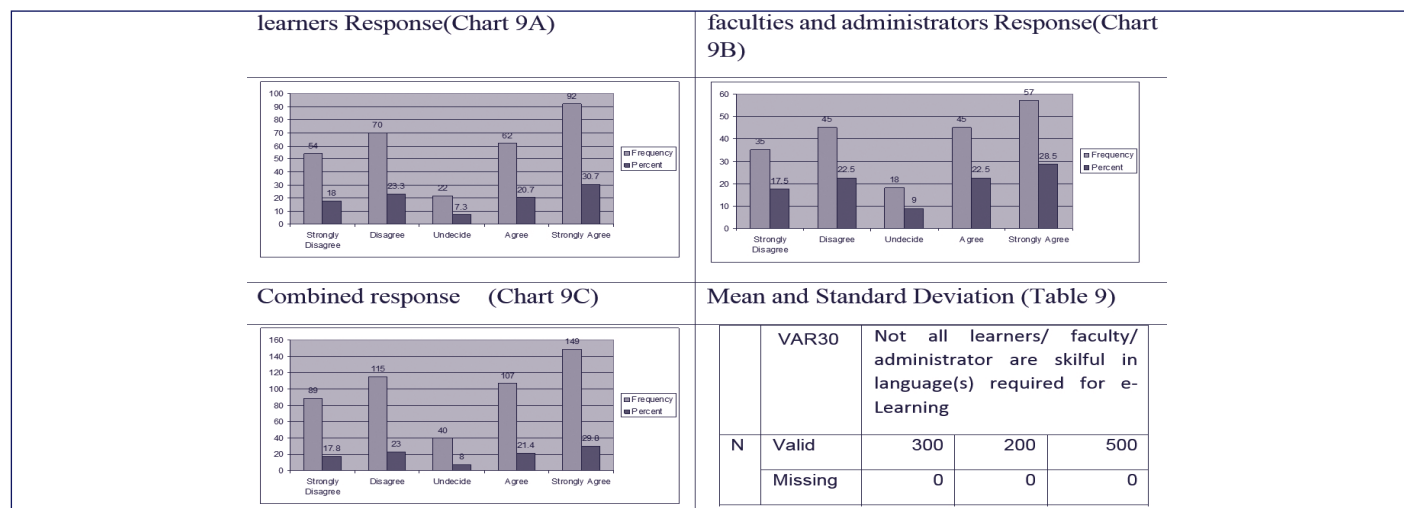

Chart 9A above exhibits that out of 300 learners, 62 learners (20.7%) agreed and 92 learners (30.7%) strongly agreed that "**Not all learners/faculty/administrator are skilful in language(s) required for e-Learning**", and this is one of the key problems associated with e-Learning. It implies that 51.4% of the learners believe that this is one of the major problems associated with e-Learning. Similarly, at Chart 9B above it can be seen that, out of 200 faculties and administrators, 45 respondents (22.5%) agreed and 57 respondents (28.5%) strongly agreed that it is a key problem. Overall 50.4% of respondents comprising of 107 respondents (representing 21.4%) having agreed, and 149 respondents (representing 29%) strongly agreed this to be a key problem associated with e-Learning in higher education in India. The combined response at Chart 9C above justifies the similar outcome. The associated mean value of 3.224 (as shown in table above) is also indicative of the same. In case of above analysis from charts 1 to 9, after exploring the key problems and prospects concerning e-Learning in formal higher education in India through desktop research of available literature, a survey instrument consisting of questions on various identified problems was developed and instituted on the sample respondents. The respondents were required to mark their responses on a five point likert scale in the range of 1-5, where 1 represented strongly agree and 5 represented strongly disagree. This was further supported by the structured interviews of faculties and administrators of identified institutes/organizations.

FINDINGS AND DISCUSSION

The findings of the study revealed that the perceived biggest pedagogical barrier in successful implementation of e-Learning in higher education in India is the non-availability of Face to face communication. This exploration is reflected not

only on overall basis including all the learners, faculties and administrator respondents, but individually also, as reflected by highest overall mean score of 3.98, mean score of 3.94 for learners', and mean score of 4.04 for faculties and administrators. Researchers have reported that lack of physical interactions made e-learning students feel isolated and apprehensive (see Schott et al.; 2003). Further, researchers including Haigh (2004) expressed that lack of physical interaction may also affect the completion rate of scholars. Sitlani and Jain (2020), in their project conducted on open and distance universities of Madhya Pradesh, explored this to be the biggest issue concerning e-higher education in open and distance universities of Madhya Pradesh. As high as 76.6% respondents in their study agreed/ strongly agreed that this is one of the important problems/issues concerning e-higher education. Followed by this, with a mean score of 3.92 and supporting opinion of 77.6% respondents, inability of e-Learning to facilitate content flexibility as per the need of learners/faculty/ administrator, was reported to be second biggest pedagogical barriers by respondent learners, faculties and administrators. Mehra & Mittal (2007) also opined "teachers do not find e-Learning environments matching with their teaching styles". Other researchers in the related area have explored the similar findings (see Sitlani and Jain; 2020). This was followed by Isolation of learner results in lack of direction thereby de-motivates learners for e-Learning being third largest barrier (with mean score of 3.24 and 51.8% supporting respondents). These were further followed by Not all learners/faculty/administrator are skilful in language (s) required for e-Learning as a pedagogical barier (mean score 3.224, supporting percentage 50.4), and Enquiry based learning being not possible with e-Learning respectively as another perceived pedagogical barrier (mean score 3.20, supporting percentage 50). Further, the study also supported

that non-suitability of e-learning for all kinds of teaching styles (mean score 3.138) and inability of e-learning to accommodate all kinds of teaching pedagogies (mean score 3.128) are also major pedagogical barriers in successful implementation of e-Learning in higher education India. This in parallel generates the issue of feasibility in integration of e-learning systems with other traditional modes of education. As Sitlani and Jain (2020) observed, "as e-Learning does not accommodate all kinds of teaching pedagogies, it is very difficult to integrate e-Learning system with other systems". Although the respondents did not perceive that "e-Learning limits the quality of content" and "Project based learning is not possible with e-Learning" are key pedagogical barriers concerning e-learning. The authors believe that limitation and future scope the study is that, this study was conducted by including learners, faculties and administrators associated with IGNOU, only. Similar such studies may be conducted by including responses of participants from various Open and Distance mode along with dual Universities of the country.

CONCLUSION

The Present study attempted to know and understand the various pedagogical barriers through the sample respondents including learners, faculties and administrators.This study highlights that the e-learners are at its disadvantages due to the isolated feeling from the peer groups and tutor. The isolated feeling is seriously affecting their learning behaviour. The e-learning also posing limitations in enquiry based learning, project based learning, preparedness for suitability for e-learning based various teaching-learning styles, lack of accommodating ability for all kind of teaching pedagogies, etc. The faculty members and administrators are facing problems due to lack of facilitations in flexibility, concerns over quality of e-learning contents and lack of knowledge pertaining to the skilful languages related to the e-learning technologies. Learner's distress in adopting new methods/ new technologies of e-learning may be resolved through guided practice. Live interaction sessions may also partially attributes to the effectiveness in reception of course contents by e-learners. From the learner's point of view, learners' perceptions, teacher's behaviour and characteristics of pedagogy of e-learning courses may also be a crucial aspect in effective delivery. In this study authors suggests that there is a need for specific Universities to focus on training and development aspects of faculties in modern and advanced skills catering e-learning. This study concludes that, major pedagogical barriers, as listed in this study, needs to be addressed appropriately for effective implementation of e-learning.

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