Opinion on E-Teaching among Engineering Professionals: A Study

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Abstract

This study is aimed to evaluate the Opinion on E-Teaching among Engineering Professionals. The questionnaire method was adopted to collect the data. 250 Questionnaire were distributed to the respondents, out of this 224 were received back and making the response rate was 77.6%. The Engineering professionals have given first priority for the Purpose of Accessing E-Teaching Tools and Techniques of 'To solve the Complex problems'. Engineering professionals have highly preferred for the Benefits in E-Teaching was 'Same quality of education for all'. Engineering professionals have given first priority for the Roles and Responsibilities of the Tutor in E-Teaching of 'Content Facilitator'. Engineering professionals have given first priority for the Demerits of 'No need to attend the Class'

Keywords

Literacy, E-Teaching, Engineering Professionals,
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INTRODUCTION

In Ancient times the students were in gurukulas and the gurus were monitoring their disciple progress directly. After the decades gurukulams were slowly vanished and the schools were introduced. Students must go to school to learn the lessons from teachers. Now the advent of ICT's (Information Communication Technology), the teaching methods were getting in to the new dimension. And the information technologies increased the usage of new tools and techniques in teaching field. The tutor mediates between the content and learners, uses ICT and e-technologies to mediate in the process of learning. The Teacher supports students, supports the process of cognitive difficulties resolving, and directs the students to use specific knowledge and skills. The E-Teaching Explores the possibilities of improving work, learns course content, learns about e-education Self-realisator Expresses his or her own personality. The higher educational institutions in many countries introduced the revolutionary changes in teaching. The fully online certificate programme on teaching online offered by UCLA (University of California at Los Angeles, http://www.uclaextension.edu).

Google also can play an role of e-teacher. Teacher can modify the modules in google e-teacher. Moodle is an Open Source tool used to run online trainings and to supplement traditional education and has been made accessible at no cost under GNU GPL licence. The software was written in the PHP language and is available for Open Source databases (MySQL, PostgreSQL etc). It can also be installed in any operating environment (MS Windows, Unix, Linux). The E-Teaching bring the world very closer to the learner community. It offers the collaborative opportunities and communication all over the world. The individualized learning also possible in E-Teaching.

REVIEW OF LITERATURE

The current level of the learning technology development provides opportunities for (Benson and Brack, 2009: 74): collaborative engagement, access to information, interaction with content and individual empowerment. Nowadays, rapid changes in communication technologies enable teachers to move from traditional face-to-face classroom activities to online classrooms, or online activities in the traditional classrooms. According to Nakajima, e-teaching is "the system designed to improve teachers'

performance, and their self-regulation and motivation. Its service designs are aimed at supporting teachers to teach effectively in an e-learning environment" (Nakajima, 2006). The structure of e-learning process brings about a few models of learning scenarios and e-teaching scenarios (Krneta et al. 2007): a) web-based e-learning scenarios; b) classroom-based e-learning scenarios; c) online classroom e-learning scenarios; d)scenarios of net-based course; e) scenarios of e-learning with streaming media technology; f) scenarios of e-learning in the hypermedia classroom; g) scenarious of e-learning based on the combination of the traditional classroom learning and e-learning. A study of over 500 members of the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) indicated that the focus of interest for e-teachers has shifted from technology skills training to enhancing skills in e-moderating for high-quality online learning (Kim & Bonk, 2006)

STATEMENT OF THE PROBLEM:

The present study aims to analyses the Opinion on E-Teaching among the Engineering Professionals

OBJECTIVES

The framed objectives are:

1. To identify the Gender wise distribution of the engineering professionals.
2. To study the category wise distribution of the respondents
3. To know the preferred types of e-teaching materials
4. To assess the purpose of accessing e-teaching tools and techniques
5. To reveal the benefits in e-teaching
6. To identify the roles and responsibilities of the tutor in e-teaching
7. To know the demerits in e-teaching

METHDOLOGY

This analysis attempts to study the Opinion on E-Teaching among Engineering Professionals. The well tested Questionnaire was distributed personally to the Engineering Professionals and also sufficient time was given to the respondent to furnish the information. 250 Questionnaire were distributed to the respondents, out of this 224 were received back, making the response rate 77.6%. The collected data were classified and tabulated according to the objectives of the study analyzed by using statistical tools, such as percentage analysis.

ANALYSIS AND INTERPRETATION

Gender wise Distribution of Questionnaires

The Gender wise Distribution of Questionnaires to the Engineering Professionals has been analysed and it is shown in the table.1

Table 1: Gender wise Distribution of Questionnaires to the Engineering Professionals

S. No	Gender	Distributed Questionnaires		Received Questionnaires	
		No of respondents	%	No of respondents	%
1	Male	150	60	122	48.80
2	Female	100	40	72	28.80
	Total	250	100	194	77.60

From the table.1, it is indicated the Gender wise distribution questionnaires to the Engineering Professionals. Among the 250, 150(60%) questionnaire were distributed to the male respondents and 100(40%) of the questionnaire were distributed to the female respondents. 48.80 percent of the questionnaires were received from the male respondents and 28.80 percent of the questionnaires were received back from the female respondents. The overall response rated was 77.6 percent.

Category wise distribution of respondents

The category wise distribution of respondents has been analysed and it is seen in table.2

Table 2: Category wise distribution of Respondents

S. No	Category wise distribution of respondents	No of respondents	%
1	Mechanical Engineering	46	23.71
2	Civil Engineering	35	18.04
3	Computer Science	21	10.82
4	Chemical Engineering	15	7.73
5	Electrical and Electronic Engineering	37	19.07
6	Electronics and Communication Engineering	23	11.86
7	Electronic and Instrumentation Engineering	17	8.76
	Total	194	100.00

It is studied from table 2, 23.71percent of the respondents were in the category of Mechanical Engineering, 19.07 percent of the respondents were in Electrical and Electronic Engineering, 18.04 percent of the respondents were in Civil Engineering, 11.86 percent of the respondents were in Electronics and Communication Engineering and 8.76 percent of the respondents were in the category of Electronic and Instrumentation Engineering. From the 194, the highest number 46 (23.71%) of respondents were in the category of Mechanical Engineering.

Preferred types of E-Teaching materials

The study has been analysed for the preferred types of E-Teaching materials among the Engineering Professionals. The types of E-Teaching materials like HTML, PDF Documents, Audio Based Materials, Video Based Materials, Animated Materials, Web Based Text Book Materials etc., have tabulated. The three point scales of Frequently, Occasionally and rarely were used for the study. The Mean and their Rank for the preferred types of E-Teaching materials has been calculated and it is shown in the table 3.

Table 3:Preferred types of E-Teaching materials

S. No	Types of E-Teaching materials	Frequently %	Occasionally %	Rarely %	WAM	Rank
1	HTML	28 14.43	120 61.86	46 23.71	1.91	7
2	Power Point	65 33.51	102 52.58	27 13.92	2.20	3
3	PDF Documents	112 57.73	68 35.05	14 7.22	2.51	1
4	Audio Based Materials	67 34.54	71 36.60	56 28.87	2.06	6
5	Video Based Materials	85 43.81	58 29.90	51 26.29	2.18	4
6	Animated Materials	97 50.00	66 34.02	31 15.98	2.34	2
7	Web Based Text Book Materials	56 28.87	102 52.58	36 18.56	2.10	5

It is revealed from Table.3 that Engineering professionals have given first priority for the types of E-Teaching materials of 'PDF Documents'. 'Animated Materials, Power Point' and 'Video Based Materials' are the types of E-Teaching materials of second and third preferences given by them. The least preference was given for the type of 'HTML'. The mean value for all the variables ranges between 2.51 and 1.91.

Purpose of Accessing E-Teaching Tools and Techniques

The study has been analysed for the Purpose of Accessing E-Teaching Tools and Techniques among the Engineering Professionals. The Purpose of Accessing E-Teaching Tools and Techniques like to solve the Complex problems, to identify the trouble shooting equipment and system, To design the experiments, devices and products, To Justify the solutions, To develop the process models, Implementing the solutions in to action etc., have tabulated. The three points scales of Frequently, Occasionally and rarely were used for the study. The Mean and their Rank for Purpose of Accessing E-Teaching Tools and Techniques has been calculated and it is shown in the table 4.

Table 4: Purpose of Accessing E-Teaching Tools and Techniques

S. No	Purpose of Accessing E-Teaching tools and techniques	Frequently %	Occasionally %	Rarely %	WAM	R
1	To identify the problems	59 30.41	103 53.09	32 16.49	2.14	5

2	To solve the Complex problems	94 48.45	87 44.85	13 6.70	2.42	1
3	To develop the process models	62 31.96	105 54.12	27 13.92	2.18	4
4	to identify the trouble shooting equipment and system	54 27.84	108 55.67	32 16.49	2.11	6
5	To design the experiments, devices and products	89 45.88	78 40.21	27 13.92	2.32	2
6	To Justify the solutions	82 42.27	75 38.66	37 19.07	2.23	3
7	To find the alternatives	57 29.38	91 46.91	46 23.71	2.06	7
8	Implementing the solutions in to action	53 27.32	97 50.00	44 22.68	2.05	8

It is assessed from Table.4 that Engineering professionals have given first priority for the Purpose of Accessing E-Teaching Tools and Techniques of 'To solve the Complex problems'. 'To design the experiments, devices and products' and 'To Justify the solutions' are Purpose of Accessing E-Teaching Tools and Techniques of second and third preferences given by them. The least preference was given for the purpose of 'Implementing the solutions in to action '. The mean value for all the variables ranges between 2.42 and 2.05.

The study has been analysed for the Benefits in E-Teaching among the Engineering Professionals. The Benefits in E-Teaching like Efficient and Cost Effective, Possibility of Collaboration, Possibility to interact the peers in the field, Same quality of education for all, Central control of content, 24x7 Availability etc., have listed. The five point scales of Strongly Disagree, Disagree, Not Agree, Agree, and Strongly Agree were used for the study. The Mean and their Rank for Benefits in E-Teaching has been calculated and it is shown in the table 5.

Benefits in E-Teaching

Table 5: Benefits in E-Teaching

S. No	Benefits in E-Teaching	**SA %**	**A %**	**NO %**	**DA %**	**SDA %**	**WAM**	**R**
1	24x7 Availability	59 30.41	72 37.11	46 23.71	12 6.19	5 2.58	3.87	7
2	Easier to understand	73 37.63	82 42.27	23 11.86	9 4.64	7 3.61	4.06	6
3	Central control of content	64 32.99	102 52.58	13 6.70	7 3.61	8 4.12	4.07	5
4	Same quality of education for all	108 55.67	54 27.84	24 12.37	5 2.58	3 1.55	4.34	1
5	Possibility to interact the peers in the field	85 43.81	83 42.78	19 9.79	5 2.58	2 1.03	4.26	2
6	Less administrative work	62 31.96	102 52.58	19 9.79	8 4.12	3 1.55	4.09	4
7	Create a paperless environment	82 42.27	76 39.18	27 13.92	5 2.58	4 2.06	4.17	3
8	Efficient and Cost Effective	42 21.65	69 35.57	32 16.49	27 13.92	24 12.37	3.40	9
9	Possibility of Collaboration	52 26.80	64 32.99	37 19.07	26 13.40	15 7.73	3.58	8

(SA- Strongly Agree, A-Agree, NO – No Opinion, DA-Disagree, SDA- Strongly Disagree, R-Rank)

It is shown from Table.5 that Engineering professionals have given first priority for the Benefits in E-Teaching of 'Same quality of education for all'. 'Possibility to interact the peers in the field' and 'create a paperless environment' are the opinion about the Benefits in E-Teaching of second and third preferences given by them. The least preference was given for the Benefits of 'Efficient and Cost Effective '. The mean value for all the variables ranges between 4.34 and 3.40

Roles and Responsibilities of the Tutor in E-Teaching

The study has been analysed for the Roles and Responsibilities of the Tutor in E-Teaching among the Engineering Professionals. Some of the Roles and responsibilities like Content Facilitator, Resource provider, Course Designer, Administrator etc., have tabulated. The five point scales of Strongly Disagree, Disagree, Not Agree, Agree, and Strongly Agree were used for the study. The Mean and their Rank for Roles and Responsibilities of the Tutor in E-Teaching has been calculated and it is shown in the table 6.

Table.6 Roles Responsibilities of the Tutor in E-Teaching

S. No	Responsibilities	SA %	A %	NO %	DA %	SDA %	WAM	R
1	Content Facilitator	62 31.96	75 38.66	37 19.07	12 6.19	8 4.12	3.88	1
2	Resource provider	71 36.60	62 31.96	24 12.37	23 11.86	14 7.22	3.79	2
3	Advisor	49 25.26	72 37.11	29 14.95	27 13.92	17 8.76	3.56	6
4	Course Designer	67 34.54	61 31.44	19 9.79	23 11.86	24 12.37	3.64	5
5	Administrator	42 21.65	87 44.85	23 11.86	15 7.73	27 13.92	3.53	7
6	Lifelong Learner	57 29.38	64 32.99	42 21.65	19 9.79	12 6.19	3.70	4
7	Playing as a Technologist	62 31.96	74 38.14	26 13.40	17 8.76	15 7.73	3.78	3

(SA- Strongly Agree, A-Agree, NO – No Opinion, DA-Disagree, SDA- Strongly Disagree, R-Rank)

It is identified from Table.6 that Engineering professionals have given first priority for the Roles and Responsibilities of the Tutor in E-Teaching of 'Content Facilitator'. 'Resource provider' and 'Playing as a Technologist' are the opinion about the Roles and Responsibilities of the Tutor in E-Teaching of second and third preferences given by them. The least preference was given for the role and responsibity of 'Administrator '. The mean value for all the variables ranges between 3.88 and 3.53.

Demerits in E-Teaching

The study has been analysed for the demerits in E-Teaching among the Engineering Professionals. The five point scales of Strongly Disagree, Disagree, Not Agree, Agree, and Strongly Agree were used for the study. The Mean and their Rank for Demerits in E-Teaching has been calculated and it is shown in the table 7.

Table.7 Demerits in E-Teaching

S. No	Demerits in E-Teaching	SA %	A %	NO %	DA %	SDA %	WAM	R
1	Lack of student Involvement	42 21.65	66 34.02	27 13.92	32 16.49	27 13.92	3.33	7
2	No need to attend the Class	80	73	12	17	12	3.99	1

		41.24	37.63	6.19	8.76	6.19		
3	Face to Face interaction is not possible	57 29.38	62 31.96	31 15.98	23 11.86	21 10.82	3.57	6
4	May not listen to the teacher	52 26.80	69 35.57	32 16.49	27 13.92	14 7.22	3.61	4
5	May not do their home work	63 32.47	72 37.11	25 12.89	19 9.79	15 7.73	3.77	2
6	Malpractice In exams	54 27.84	68 35.05	34 17.53	21 10.82	17 8.76	3.62	3
7	Lack of Infrastructure	52 26.80	73 37.63	27 13.92	23 11.86	19 9.79	3.60	5

(SA- Strongly Agree, A-Agree, NO – No Opinion, DA-Disagree, SDA- Strongly Disagree, R-Rank)

It is revealed from Table 7 that Engineering professionals have given first priority for the Demerits of 'No need to attend the Class'. 'May not do their home work' and 'Malpractice In exams' are the opinion about the Demerits in E-Teaching of second and third preferences given by them. The least preference was given for the opinion of Lack of student Involvement. The mean value for all the variables ranges between 3.36 and 4.26. The deviation of opinion ranges between 3.99 and 3.33.

CONCLUSION

The majority of the user preferred E-Teaching materials among the Engineering Professionals. The types of E-Teaching materials like HTML, PDF Documents, Audio Based Materials, Video Based Materials, Animated Materials, Web Based Text Book Materials etc., And, the purpose of Accessing E-Teaching Tools and Techniques among the Engineering Professionals. The Purpose of Accessing E-Teaching Tools and Techniques like to solve the Complex problems, to identify the trouble shooting equipment and system, To design the experiments, devices and products, To Justify the solutions, To develop the process models, Implementing the solutions in to action etc.,

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