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Perception Of Using Technology For Teaching

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Abstract- Descriptive-survey study was conducted to find out the Perception of using Technology for teaching among the Faculties of Higher Education Namakkal District. A sample of 750 Faculties from various discipline was selected by convenience sampling technique. To collect the data, Perception of using Technology for teaching (PTT) were used which was designed and constructed by Dr.K.Saileela. PTT Scale consists of 17 items with responses Strongly Agree, Agree, Disagree and Strongly disagree 1. The Cronbach coefficient alpha for raw score variables for the PTT Scale was 0.94. indicates best level of reliability of PTT Scale. The data was collected with the help of Google forms. The data were analyzed using the statistical techniques like Percentage analysis, Mean, Standard Deviation. In this study we could find that Faculties have high level (M=54.45, S. D=7.51, N=750, Maximum=68) of Perception of using Technology for Teaching.

Keywords: Perception, Technology, Teachers, Teaching

I Introduction

Technology is progressively becoming a more important part of education. Using technology in classrooms has the possibility to create improved student motivation, increased social interactions, positive outcomes, enhanced student learning, and greater student engagement. Technology is capable of unlocking keys of learning with all students. In the virtual classroom, there is need for electronic presentations. Teachers teaching Online should be able to use relevant software to create and share their presentations. They have to dedicate some of their time and upgrade their knowledge with something more interactive and captivating than just PowerPoint.

According to a survey by Learning Spiral, 84% of teachers face challenges in delivering education digitally. Nearly 50% of teachers face issues related to signal issues and data expenses. The teachers had no prior experience teaching online and the survey says less than 20% of teachers received orientation on delivering online classes.

II METHODS

This descriptive-survey study was conducted to find out the Perception of using Technology for teaching of the Faculties. The population of the study comprised the 750 Faculties of Namakkal District belonging to various disciplines of higher education. A sample of 750 Faculties was selected by random sampling technique.

As the investigators aimed at collecting the data from the Faculties of different disciplines in the Namakkal District, the data were collected using

(i) Personal data form,

The Personal Data collection form was used to collect the demographic information such as Gender, Location, Age, Designation, Experience and Monthly Income of the respondents.

- Based on Gender, the respondents were categorized as Male and Female.
- Based on Location the respondents were Urban and Rural
- Based on Designation the respondents were Assistant Professor, Associate Professor, Lecturer, Librarian, School teacher
- Based on their Age categorized as 20-30 years, 30 to 40 years, 40 to 50 years,50 to 60 years.
- Based on Experience less than 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years and 21 and above
- Based on Monthly Income, categorized as less than 25000, 25001-50000, 51000-100000 and above 100000

(ii) Perception of using Technology for teaching (PTT)

Perception of using Technology for teaching (PTT) was designed and constructed by the investigator and Guide. Both the questionnaires were designed with four-point scale Strongly Agree, Agree, Disagree, Strongly Disagree. For Strongly Agree the score was 4, for Agree 3, for disagree 2 and for Strongly disagree 1. Thus, the maximum score of PTT is 68 and minimum is 17. A Cronbach's alpha analysis was used to determine the reliability of the scale.,

IV Data Analysis and Interpretation

Table-1
Reliability Statistics

Cronbach's Alpha	N of Items
.944	17

Table-2
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PT1	51.05	51.212	.596	.943
PT2	51.15	50.826	.626	.942
PT3	51.22	49.816	.692	.941
PT4	51.24	49.447	.721	.940
PT5	51.21	50.061	.691	.941
PT6	51.28	49.599	.696	.941
PT7	51.27	49.633	.729	.940
PT8	51.27	49.836	.748	.940
PT9	51.39	50.251	.649	.942
PT10	51.33	49.813	.716	.940
PT11	51.39	49.259	.698	.941
PT12	51.33	49.990	.711	.940
PT13	51.25	49.879	.730	.940
PT14	51.20	50.686	.721	.940
PT15	51.12	50.481	.686	.941
PT16	51.22	50.782	.614	.942
PT17	51.16	51.069	.637	.942

To choose internally consistent items, one needs to look at the results of the Item-Total Correlation Statistics Table-2**.** The third column shows us the correlation between the respective item and the total sum score (without the respective item) and the last column shows the internal consistency of the scale (Coefficient :) A Cronbach Alpha for the total instrument was conducted in order to test for reliability of the 17 items on the questionnaire taken as a whole. The Cronbach coefficient alpha for raw score variables for the total instrument was 0.94. indicates best level of reliability

IV(a) Percentage Analysis

1. In this study 31.9% have strongly agreed that, **Technology provides access to numerous resources for enriching education,** Dongsong Zhang (2005) in his experimental study found that participants in the fully interactive e-learning group achieved significantly better performance and higher levels of satisfaction than those in the less interactive e-learning group and the traditional class. Students in the fully interactive e-learning group were able to select a preferred format for content presentation, such as "video + slides," "video + slides + lecture notes," "audio + slides," and "slides + lecture notes."

1.Technology provides access to numerous resources for enriching education		
	Frequency	Percent
Agree	402	53.6
Disagree	18	2.4
Strongly Agree	325	43.3
Strongly Disagree	5	.7
Total	750	100.0

2. In this study 43.3% have strongly agreed that **Technology allows students to learn at their own comfortable pace**, Sudhagar Chandran 2014 in his study found the effectiveness of a new method teaching learning method, known as '24X 7 Teaching Learning strategies' (24X7-TLS) to enhance the teaching and learning process more enjoyable by implementing it to a small group of learners and found the students' performance has improved.

2. Technology allows students to learn at their own comfortable pace		
	Frequency	Percent
Agree	440	58.7
Disagree	37	4.9
Strongly Agree	268	35.7
Strongly Disagree	5	.7
Total	750	100.0

3. In this study 32.9% have strongly agreed that **Technology provides more fun and effectiveness for learning**, Heafner, T. (2004) in his study found that all students reported enjoyment in the task because technology made their work easier and more fun to do. One student commented, "I like using computers, the Internet, and PowerPoint because it is fun, fresh, and invigorating." One of the most common reasons for enjoyment in the task was that computer use made students' work neater, enabled them to add nice graphics, and made the overall presentations look professional. These feelings were captured in this student's statement: "I like using technology to do my work because you can do more with technology. You can make a really cool presentation that wouldn't be possible without the technology."

3. Technology provides more fun and effectiveness for learning		
	Frequency	Percent
Agree	427	56.9
Disagree	71	9.5
Strongly Agree	247	32.9
Strongly Disagree	5	.7
Total	750	100.0

4. In this study 31.9% have strongly agreed that **Technology helps to actively engage learners in the classes,** T.Muthuprasad et.al.,2021 The students opined that flexibility and convenience of online classes makes it attractive option, whereas broadband connectivity issues in rural areas makes it a challenge for students to make use of online learning initiatives.

Jeremy M. Roschelle,et.al., (2000), in their study explored the various ways to illustrate ways technology can enhance how children learn by supporting four fundamental characteristics of learning: (1) active engagement, (2) participation in groups, (3) frequent interaction and feedback, and (4) connections to real-world contexts

4. Technology helps to actively engage learners in the classes		
	Frequency	Percent
Agree	431	57.5
Disagree	72	9.6
Strongly Agree	239	31.9
Strongly Disagree	8	1.1
Total	750	100.0

In this study 31.9% have strongly agreed that **Technology makes easier to demonstrate abstract concepts**, Hasan Gürbüz, et.al.,2009 Results indicated that presenting and preparing power point slides had a significant effect on prospective teachers' biology achievement and attitude toward biology. The learners are active in preparing process of the power point slides and use different sources about the subjects. Therefore, they get kinds of information and construct them in their minds. Finally, this construction in mind positively effects conceptual understanding and attitude.

5. Technology makes easier to demonstrate abstract concepts		
	Frequency	Percent
Agree	455	60.7
Disagree	47	6.3
Strongly Agree	239	31.9
Strongly Disagree	9	1.2
Total	750	100.0

In this study 29.9% have strongly agreed that **Technology helps to increases students' academic achievements**, Park, Seoyeon, and Wenting Weng, 2020, This study examined how information and communications technology (ICT) related factors and country-level economic status influence student academic achievement. Two-level structural equation modeling was employed to investigate both student-level and country-level variables, using the PISA 2015 data of ninth-grade students across 39 countries. The findings indicate that: interest in ICT, perceived ICT competence, and autonomy had positive impacts on academic performance; and higher level of students' perceived autonomy in ICT resulted in better learning outcomes in countries with less income inequality.

6. Technology helps to increases students' academic achievements		
	Frequency	Percent
Agree	432	57.6
Disagree	87	11.6
Strongly Agree	224	29.9
Strongly Disagree	7	.9
Total	750	100.0

In this study 28.4% have strongly agreed that **Technology aids to evaluate students learning progress**, ZamzamiZainuddin,2020, in his study showed that the employment of innovative gamified e-quiz applications (i.e., Socrative, Quizizz, and iSpring Learn LMS) and paper-based quizzes were effective in evaluating students' learning performance, particularly as formative assessment after completing each topic. Finding ways to apply games or game concepts in the classroom can be a promising and innovative tool for educators to engage their students in creative learning skills and attractive competition.

7. Technology aids to evaluate students learning progress		
	Frequency	Percent
Agree	459	61.2
Disagree	71	9.5
Strongly Agree	213	28.4
Strongly Disagree	7	.9
Total	750	100.0

In this study 26.7% have strongly agreed that**, Technology facilitates to improve knowledge retention**, Gordani, Y., Khajavi, Y. (2020). investigated the effect of PowerPoint-supported (PPS) lectures on immediate comprehension and longer-term retention of the content by foreign language University students. For this purpose, 69 students of teaching English as a foreign language (EFL) enrolled in language teaching methodology course. It was found that learners' comprehension improves significantly both immediately and in the long run when they are provided with Power Point-supported (PPS) lectures with slides at propositional level

8. Technology facilitates to improve knowledge retention		
	Frequency	Percent
Agree	487	64.9
Disagree	56	7.5
Strongly Agree	200	26.7
Strongly Disagree	7	.9
Total	750	100.0

In this study 21.5% have strongly agreed that Technology relieves cognitive overload of the students , Katrin, H., (2020) study focused on potential cognitive effects of METs (Mobile devices (smartphones or tablets) as experimental tools) using video analyses on tablets to investigate pendulum movements and an instruction that has been used before to study effects of smartphones' acceleration sensors. We suppose that pupils in the treatment group (TG) have a lower extraneous cognitive load and higher learning achievement than those in the control group (CG) working with traditional experimental tools.

9. Technology relieves cognitive overload of the students		
	Frequency	Percent
Agree	479	63.9
Disagree	101	13.5
Strongly Agree	161	21.5
Strongly Disagree	9	1.2
Total	750	100.0

Victor **et.al.,** 2017**,** found that facilities like computer systems, email accounts, projectors, Public Address System (P.A.S), E-Library, printers for print out of learning materials by students and Social-Media Platforms are available for students' learning in Ondo State tertiary institutions, ICT facilities like internet, computer training centre for students on campus and stored lecture notes on CD-ROM are not available to students for learning, Computer training classes and projectors for academic activities are not accessed by students' on campus, female students' have the highest level of utilization of ICT facilities compared to male students in Ondo State tertiary institutions. The studies recommend that school management should continue to provide ICT facilities like internet, projector, E-Library facilities, computer printers and social-media platforms to broadens students' knowledge and improve their overall learning experiences, government and educational managers should often encourage proper utilization of ICT facilities to enhance students' learning.

10. Technology affords a simpler and practical learning experiences		
	Frequency	Percent
Agree	483	64.4
Disagree	79	10.5
Strongly Agree	179	23.9
Strongly Disagree	9	1.2
Total	750	100.0

In this study 24.4% have strongly agreed that **Technology helps students to stay motivated in the classes**, Safiyeh Rajaee Harandi (2015) This study highlighted the significant relationship between e-learning and students' motivation so, students are more likely to be more motivated when applying e-learning.

11. Technology helps students to stay motivated in the classes		
	Frequency	Percent
Agree	432	57.6
Disagree	124	16.5
Strongly Agree	183	24.4
Strongly Disagree	11	1.5
Total	750	100.0

In this study 23.5% have strongly agreed that **Technology assists students to engage with more complex themes,** Adams **et.al.,** 2021 Interactive computer simulations with complex representations and sophisticated graphics are a relatively new addition to the classroom, and research in this area is limited. These interviews are a rich source of information about how students interact with computer simulations and what makes an educationally effective simulation. We have observed that simulations can be highly engaging and educationally effective, but only if the student's interaction with the simulation is directed by the student's own questioning

12. Technology assists students to engage with more complex themes		
	Frequency	Percent
Agree	492	65.6
Disagree	74	9.9
Strongly Agree	176	23.5
Strongly Disagree	8	1.1
Total	750	100.0

In this study 28.8% have strongly agreed that **Technology eases to understand huge amounts of information in a short time**, Heping Deng and Shouhong Zhang 2007 These are some comments from students on technologies in multimedia classroom in the survey "Multimedia classes are easier to pass because computer slides can be used to project on a screen and allows everyone to see them."; "I learn better with computer technology being used, rather than written on a board. The presentation is near."; "Using Word, Excel, and Power Point gives students advantage."

13. Technology eases to understand huge amounts of information in a short time		
	Frequency	Percent
Agree	470	62.7
Disagree	58	7.7
Strongly Agree	216	28.8
Strongly Disagree	6	.8
Total	750	100.0

In this study 28.7% have strongly agreed that **Technology tools can transform abstract concepts into interactive visual content (Simulation),** Dongsong Zhang, **et.al.,** 2006 in their study found that students in the e-learning environment that provided interactive video achieved significantly better learning performance and a higher level of learner satisfaction than those in other settings. However, students who used the e-learning environment that provided non-interactive video did not improve either. The findings suggest that it may be important to integrate interactive instructional video into e-learning systems. Andreas Holzinger, **et.al.,** 2009, studied that simulations can be beneficial for learning complex concepts, however, interacting with sophisticated simulations strain the limitation of cognitive processes; therefore, successful application of simulations require careful additional guidance from medical professionals and a certain amount of previous knowledge on the part of the learners. The inclusion of pedagogical and psychological expertise into the design and development of educational software is essential

14. Technology tools can transform abstract concepts into interactive visual content (Simulation)		
	Frequency	Percent
Agree	504	67.2
Disagree	28	3.7
Strongly Agree	215	28.7
Strongly Disagree	3	.4
Total	750	100.0

In this study 36.9% have strongly agreed that, **Technology helps students to understand content more easily (Power Point Presentations)**, Robert A Bartsch, et.al., 2003, investigated whether students liked and learned more from PowerPoint presentations than from overhead transparencies. Students were exposed to lectures supported by transparencies and two different types of PowerPoint presentations. At the end of the semester, students preferred PowerPoint presentations but this preference was not found on ratings taken immediately after the lectures.

15. Technology helps students to understand content more easily (Power Point Presentations)		
	Frequency	Percent
Agree	443	59.1
Disagree	24	3.2
Strongly Agree	277	36.9
Strongly Disagree	6	.8
Total	750	100.0

In this study 30.7% have strongly agreed that **Technology has changed the role of the teachers as facilitators**, Kwok-Wing Lai (1993) argues that teachers in this technology-rich era have a new role to play in their classrooms. As a knowledge facilitator, rather than a knowledge presenter, the job of the teacher is to create a computer- supported learning environment where learners are encouraged to think critically and creatively and to develop personal ownership and appreciation of the knowledge constructed.

16. Technology has changed the role of the teachers as facilitators		
	Frequency	Percent
Agree	465	62.0
Disagree	47	6.3
Strongly Agree	230	30.7
Strongly Disagree	8	1.1
Total	750	100.0

In this study 32.5 % have strongly agreed that **Technology has enhanced teacher's techno pedagogical skills**, Sk Monirul Islam 2020, in their study have evidenced that techno-pedagogic skills plays an importance role to create a collaborative and co-operative learning environment for teaching and learning practises more effective. Present in Covid-19 circumstances when the system of education is in trouble, there is a systematic tendency towards the Technology used in education. The inclination and opportunity of teachers to use techno pedagogy has also increased.

17. Technology has enhanced teacher's techno pedagogical skills		
	Frequency	Percent
Agree	479	63.9
Disagree	21	2.8
Strongly Agree	244	32.5
Strongly Disagree	6	.8
Total	750	100.0

Conclusion

This study clearly illustrates the Perception of using Technology for teaching among the Faculties. From the analysis it is understood that the Faculties have high level (M=54.45, S. D=7.51, N=750, Maximum=68) of Perception of using Technology for Teaching. Saileela and Arul Lawrence in their study among 4913 teachers of higher education belonging to different disciplines, from various parts of the country (India) found that college teachers had high level of Readiness for Online teaching. Recent advancements in educational technologies have yielded positive results in our education sector. New educational technology supports both the teaching and learning processes. Technology has digitized classrooms through digital learning tools like, computers, iPads, smartphones, smart digital white boards. It has expanded course offerings, and has increased student's engagement and motivation towards learning (Abhipriya Roy 2019) Mike Keppell,et.al.,(2015), in their study illustrated the need for academic practitioners to be competent in the use of technology if the boundaries of best practice in learning and teaching in higher education are to be extended. This highlights the importance of academics being equipped with multi-literacy skills. Consequently, institutions need to provide authentic training and professional development opportunities for staff, and provide strong incentives for staff to attend and develop skills to support Technology-Enhanced Learning (TEL). Education have moved at high speed in the area of educational technology in this Covid Pandemic, as novel techno pedagogic strategies continue to change and evolve, educators must continue to strive for excellence in their work

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