Research Article

Perception and Acceptance for e-content: A Study on High School Teachers

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Abstract

Technology and education go hand-in-hand nowadays. It is said that people retain 20 per cent hearing; 50 per cent of hearing and seeing; and 100 per cent of hearing and seeing and doing. In the teaching-learning process, students retain more of what they are hearing, seeing and doing. E-content is one such technological tool which a teacher may use in the regular teaching-learning process. The present study aimed to find out perception and the level of acceptance towards e-content among high school teachers. The study also emphasised on comparing the perception and level of acceptance of high school teachers based on the type of school, location and gender of teachers. The researchers applied a convenient sampling technique for selecting the sample for the study. A sample consists of 126 high school teachers for the present study. The present study has shown that the maximum number of teachers holds average perception. An average level of acceptance on the part of the teachers has also been found. No significant difference has been found while comparing the perception and acceptance based on the type of school, location and gender of teachers.

Keywords: E-content, High School Teachers, Technology, Perception for e-content, Acceptance for e-content

Introduction

Educational process is going through continuous changes in the era of new technological advancements. Technology is one such element which has affected almost all the major aspects of human life. When we focus on the educational field, it can be seen that education and technology go hand in hand nowadays. Almost all the people in the world from young to old cannot escape from the technological influence. In the educational field, concepts like multimedia, information and communication technologies have impacted the way of imparting education. Impact of technology in education in a broader sense is the new normal of education. Both learner and the facilitator use technology according to their own convenience. Teachers use technology right from the preparation to the execution of their content delivery. On the other hand, a student uses technology to facilitate their knowledge and information to understand better, to complete their homework and assignments. Both teacher and the students cordially utilise technology to share and clear their knowledge and information. With the onset of technology, imparting education has become much easier. The role of technology is to deliver systems for instructional purposes, act as an instrument for the improvement of the entire learning process and it is also

included as curriculum itself (Arvindhan, 2019). Technology being an important part of education makes learning materials easily accessible. Students are benefited from online learning because it allows them to learn at their own speed, pause and re-watch videos, and explore course content independently according to their convenience (Haleem et.el, 2022). Internet based technologies can be utilised by teachers to form their own communities which will not be confined to school sites only (Courville, 2011). In one of the studies, it is found that blending technology in teaching social science improves and enhances the performance of teachers (Hero, 2019). But at the same time, if there are no appropriate guidelines for teachers on the use of technology, it limits them in using it for instruction. It also limits their desire to explore it apart from basic applications (Okojie et.al., 2006). Student academic achievement improves when technology is used appropriately in the classroom (Young, 2008).

E-content is one of the useful elements for teachers as well as students which is an outcome of the advancement of technology in education. E-content offers numerous advantages, including the ability to tailor educational resources to individual learning needs, providing multimedia-rich environments that cater to diverse learning styles (Pappas, 2018). It is said that people retain 20 per cent of hearing; 50 per cent of hearing and seeing; and 100 per cent of hearing and seeing and doing (Mishra, Patel, and Doshi, 2017). Abolition of the disparity among learners through an effective educational process is the ultimate aim of e-content (Duraisamy and Surendiran, 2011). E-content can be considered as a useful tool in the teaching-learning process which helps the teachers in transfer and students in acquisition of knowledge remotely or in face-to-face mode. E-learning and materials reduces learning differences and cognitive load among learners (Shieh and Hsieh, 2021).

Review of Literature

Meena and Pareek (2020), conducted an achievement test in which e-content is found to be effective as well as useful for teaching and learning process of science subject. Participants' feedback on ICT based approach of teaching is that it is quiet and effective in comparison to traditional methods.

Jrall and Kiran (2022), measured the effectiveness of e-content module intervention to test the achievement of B. Ed students which resulted in higher achievement among B. Ed students. It is recommended for teachers and educators to make use of electronic contents to develop interest among upcoming teachers.

According to Duraisamy and Surendiran (2011), e-content is useful in learning, facilitating the teachers in an effective manner and enhancing the learners' knowledge level as a result of which quality of effective education is possible.

Khan (2019), proved that e-content is highly effective for pre-service teachers. It promotes active participation in the teaching-learning which also encourages vigilance among the prospective teachers. The study also found that e-content is more beneficial and effective in comparison to the traditional lecture method and conventional method.

Alagappa and Raajan (2018) conducted a study on B.Ed. student-teachers in Tamil Nadu, revealing that e-content significantly improved mathematics achievement compared to traditional methods.

Lucero et al. (2022) assessed e-learning readiness in Philippine higher education institutions,

finding that both faculty and students in private and government sectors were prepared for e-content integration.

Stelzer et al. (2008) compared multimedia modules with traditional textbooks in introductory physics courses, concluding that multimedia e-content led to better immediate and long-term learning outcomes.

Gharaibeh and Alsmadi (2013) investigated the impact of courses on electronic curriculum design and multimedia, finding that they enhanced students' e-content design skills and attitudes toward e-learning.

Alrasheedi and Capretz (2018) conducted a meta-analysis identifying critical success factors in mobile learning, highlighting collaboration, ubiquitous access, and user-friendly design as key benefits of e-content.

Röhrl et al. (2024) reviewed intelligent educational technologies, noting that adaptive e-learning systems offering personalised learning paths can enhance learning quality and performance.

Baharudin et al. (2022) examined the use of schoology in visual arts education, finding that e-content platforms improved students' creative thinking skills.

Kara et al. (2019) emphasised the importance of feedback in online learning, stating that effective e-content should include timely and personalised feedback to support student learning.

Chenari et al. (2024) analysed lessons from the pandemic, concluding that e-learning can be effective when institutions address challenges related to digital infrastructure and pedagogical strategies.

Ng (2019) highlighted that students' self-regulation and digital literacy are crucial for effective online education, suggesting that e-content should support the development of these skills.

Rodrigues et al. (2019) conducted a systematic review on e-learning, identifying that well-designed e-content can enhance student engagement and learning outcomes.

Bobrytska et al. (2020) evaluated automated e-learning courses in Ukrainian universities, finding positive perceptions among stakeholders regarding the integration of e-content into vocational programs.

Bossman and Agyei (2022) studied e-learning satisfaction among distance students in Ghana, concluding that the quality of e-content and instructor support significantly affect academic performance.

Cabi (2018) investigated the flipped classroom model, revealing that e-content used in this approach positively impacts students' academic achievement.

Cattaneo et al. (2022) assessed digital competence among vocational teachers, emphasising the need for professional development in e-content creation and utilisation.

Need and significance of the study

Technology integration in education is the much-needed approach in today's context. NEP 2020 recommends investing in digital infrastructure,

online teaching-learning, e-content, and digital repositories. It focuses on addressing the digital divide in the country, leveraging technology to create virtual labs, enhancing digital literacy among teachers, using online exams and assessments, promoting blended learning and developing a rich variety of educational software in all major Indian languages of the country. However, there has been limited integration of technology in the educational sphere. The digital divide remains the main problem which arises out of various factors. Therefore, it is really important to understand what the teachers feel about technology integration and whether they accept the blending of technology in the regular classroom. The attitude of teachers could be one of the reasons behind the lag of technology usage in schools and other educational institutions. Hence, the researchers found it important to study this area. Moreover, there is a significant dearth of literature in the chosen field.

Objectives of the study

1. To find out high school teachers' perception on the use of e-content;
2. To find out the teachers' level of acceptance for e-content;
3. To check whether there is a difference in teachers' perception for e-content in relation to the type of school, location of school and gender of students;
4. To examine whether there is a difference in acceptance for e-content by the teachers on the basis of the type of school, location of school and gender of students.

Null - Hypotheses of the study

H_{O1}: There exists no significant difference between private and government high school teachers' perception towards e-content.

H_{O2}: There exists no significant difference between urban and rural high school teachers' perception towards e-content.

H_{O3}: There exists no significant difference between male and female high school teachers' perception towards e-content.

$H_{O4:}$ There exists no significant difference in the acceptance of e-content between private high school teachers and government high school teachers.

$H_{O5:}$ There exists no significant difference in the acceptance of e-content by high school teachers between urban and rural high school teachers towards e-content.

$H_{O6:}$ There exists no significant difference in the acceptance of e-content by high school teachers between male and female high school teachers.

Operational definitions

Perception of e-content: Perception of e-content refers to the cognitive and affective responses of teachers towards the use of digital educational resources. In the current study, it will be measured through a survey or questionnaire where teachers rate their views on the utility, ease of use, and effectiveness of e-content in enhancing teaching and learning processes.

Acceptance of e-content: Acceptance of e-content refers to the degree to which teachers are willing to adopt and integrate e-content into their teaching practices. In this study, this will be

assessed by asking teachers how often they incorporate e-content in their lessons, and their openness to using it in the future.

High-school teachers: In general, high school teachers, also known as secondary school teachers, teach and instruct students of grade 9th to 12th. In the current study, high-school teachers refer to the educators or teachers from various parts of Assam who teach students in Grade 9 and 10.

Research methodology

Nature of research:

The present study bears the qualities of both Quantitative and Qualitative in nature.

Sample and Sampling technique of the study

The researchers conveniently took a total of 126 high school teachers, both male and female from different private and govt. schools residing in both urban and rural areas in the state of Assam state. The primary technique used for the study is convenient sampling technique.

Research methods and Tool for the study

Primarily, two research methods were leveraged for data collection purpose:

1. Questionnaire
2. Semi-structured interviews

A self-constructed questionnaire has been used for the study. The researcher prepared a questionnaire which consisted of 15 items on the perception of teachers on e-content and 10 items on the level of acceptance for e-content by the teachers. Content analysis has been done by two resource persons who are experts in the relevant field.

Scoring for questionnaire

1 point was given for all the positive responses made by the sample and 0 point for all the negative responses for both perception and acceptance related items. Then the researchers set the norms of the tool with the help of quartiles i.e. first quartile (Q1), second quartile (Q2) and third quartile (Q3).

Norms for the tool

The norms of scoring for items related to Perception which consisted of 15 items:

Table-1: Norm of scoring for items related to Perception

Category	Scores
High level perception	12-15
Average level perception	5-11
Low level perception	1-4

The norms of scoring for items related to Acceptance which consisted of 10 items:

Table-2: Norm of scoring for items related to Acceptance

Category	Scores
High Acceptance	8-10
Average Acceptance	4-7
Low Acceptance	1-3

The theme of the questionnaires is highlighted below:

1. Perception of school teachers regarding e-content
2. Level of Acceptance by school teachers for e-content

Major area of semi-structured interview are as follows:

Advantages and disadvantages of e-content from the perception of teachers

Analysis and Interpretation of collected data

Objective 1:To find out high school teachers' perception on the use of e-content

Table-3: High school teachers' perception on the use of e-content.

Level of Perception		
Category	**No. of Respondents**	**Percentage**
High perception	8	6.3%
Average perception	90	71.4%
Low perception	28	22.2%

Interpretation: It has been found from the present study that very few respondents i.e. only 6.3 per cent have high perception regarding the use of e-content. Most of the respondents i.e. 71.4 per cent have average perception and 22.2 per cent of the respondents have low perception.

Perception of high school teacher regarding advantages of e-content

This section aimed to find out the viewpoints of teachers on the advantages and disadvantages of e-content. The viewpoints were gathered with the help of a semi-structured interview. According to the respondents, some of the advantages of e-contents are that it can maximise flexibility in teaching-learning process; can encourage self-learning among students; and can increase technical efficiency of both teachers and the students. The viewpoints of teachers are highlighted below ---

Flexibility in teaching-learning process: Use of e-content helps the teachers to have individual freedom in deciding where, what and when to teach and students will also have freedom how, what, when and where to learn.

Encourage self-learning among students: E-content will encourage self-directed learning among learners which will make students independent and responsible towards learning.

Increase technical efficiency of both teachers and the students: While using e-content, both teachers and students are not required to opt for the traditional teaching-learning process, and they will be motivated to learn and update themselves, thereby increasing their technical efficiency.

According to the respondents some of the disadvantages of e-content are that it may decrease the interaction between teachers and students; students will not be able to clarify their doubts with teachers; may encourage indiscipline on the part of the learners. Disadvantages as perceived by the sample teachers are as follows:

Decrease the interaction between teacher and students: One to one interaction between teacher and students is not possible at certain times, after the application of e-content, which is a matter of concern for teachers.

Students will not be able to clarify their doubts from teachers: Lacking in one to one interaction between teacher and students will hamper the students attempt to clarify doubts from teachers.

Encourage indiscipline on the part of the learners: Freedom for learners in where, when and how to learn may bring indiscipline among learners. Increased freedom in learning may increase indiscipline among the learners.

Objective 2: To find out the teachers' level of acceptance for e-content

Table-4: Level of acceptance for e-content by teachers

Level of Acceptance		
Category	**No. of Respondents**	**Percentage**
High level acceptance	41	32.5%
Average level acceptance	58	46%
Low level acceptance	27	21.4%

Interpretation: It has been found from the present study that 32.5 per cent teachers had shown high acceptance towards the use of e-content. 46 per cent had shown average level of acceptance and only 21.4 per cent had shown low level of acceptance.

Objective 3: To check whether there is a difference in teachers' perception for e-content in relation to the type of school, location of school and gender of students.

H_{o1}: There exists no significant difference between private and government high school teachers' perception towards e-content.

Table-5: Perception of teachers towards e-content in relation to the type of school

Type of school	N	Mean	SD	df	t-value	p-value	Remarks
Govt.	47	7.55	3.105	124	.828	0.05	Not significant
Private	79	7.08	3.141				

Interpretation: The t-value (.828) is found not to be significant at 0.05 level for df 124. So, we can accept the null hypothesis and it denotes that there is no significant difference in the perception towards e-content, among the high school teachers, based on the type of school.

H_{o2}: There exists no significant difference between urban and rural high school teachers' perception towards e-content.

Table-6: Perception of teachers regarding e-content in relation to location of the school

Location	N	Mean	SD	df	t-value	p-value	Remarks
Urban	68	6.97	3.037	124	1.103	0.05	Not significant
Rural	58	7.59	3.217				

Interpretation: The t-value (1.103) for 124 df, at 0.05 level of significance is found not to be significant between urban school teachers and rural school teachers. It has indicated that we can accept the null hypothesis in which it is stated that there is no significant difference among the high school teachers in their perception towards e-content based on the location of school. Hence, it may be inferred that both urban school teachers and rural school teachers hold the same type of perception regarding the use of e-content.

H_{O3}: There exists no significant difference between male and female high school teachers' perception towards e-content.

Table-7: Perception of teachers regarding on the use of e-content in relation to their gender

Gender	N	Mean	SD	df	t-value	p-value	Remarks
Male	74	7.32	2.623	124	.300	0.05	Not significant
Female	52	7.15	3.749				

Interpretation: The t-value (.300) at df-124 is found to be not significant at 0.05 level. It indicates that null hypothesis can be accepted which implies that there exists no such difference which proves to be significant, between the male and female high school teachers in terms of perception towards e-content.

Objective 4: To examine whether there are differences in acceptance of e-content by teachers on the basis of type of school, location of school and gender of students.

H_{O4}: There exists no significant difference in the acceptance of e-content between private high school teachers and government high school teachers.

Table-8: Acceptance of the use of e-content by teachers on the basis of the type of school

Type of school	N	Mean	SD	df	t-value	p-value	Remarks
Govt.	47	6.09	2.348	124	.122	0.05	Not significant
Private	79	6.14	2.438				

Interpretation: The t-value (.122) is found to be not significant at df- 124 which means that we can accept the null hypothesis. It can be said that, on the basis of the type of school, there are differences on the acceptance

of e-content among the high school teachers.

H_{05}: There exists no significant difference in the acceptance of e-content by high school teachers between urban and rural high school teachers towards e-content.

Table-9: Acceptance of the use of e-content by teachers on the basis of location of school

Location	N	Mean	SD	df	t-value	p-value	Remarks
Urban	68	6.03	2.474	124	.453	0.05	Not significant
Rural	58	6.22	2.317				

Interpretation: The t-value (.453) for 124 at 0.05 level is found not to be significant between urban school teachers and rural school teachers. Hence, we can accept the null hypothesis where it is said that based on the location of school, there is no difference among the high school teachers in their acceptance of e-content.

H_{06}: There exists no significant difference in the acceptance of e-content by high school teachers between male and female high school teachers.

Table-10: Acceptance of teachers on the use of e-content on the basis of their gender

Gender	N	Mean	SD	df	t-value	p-value	Remarks
Male	74	6.12	2.410	124	.014	0.05	Not significant
Female	52	6.12	2.398				

Interpretation: The t-value (.014) at df-124 is found not to be significant. It has indicated that, there exists no differences in the acceptance of e-content between male and female high school teachers, which can be termed as significant.

Discussion

According to the study, very few teachers (6.3 per cent) held a high perception towards the use of e-content and the maximum number of teachers (71.4 per cent) held just an average perception. Likewise, it is also found that less than half of the teachers (46 per cent) had shown average level of acceptance towards e-content. Though in the present era, there is a huge technological advancement all over the world, it is a matter of worry that the maximum number of teachers do not hold high perception towards e-content and hence did not show high level of acceptance. The respondents gave their viewpoints regarding the use of e-content, which has resulted in their level of perception and acceptance. The advantages of e-content, described by those teachers, are that it can maximise the flexibility in teaching-learning process, can encourage self-learning among learners, and can increase technical efficiency of teachers and the students. Some of the disadvantages according to the teachers are that e-content may decrease the interaction between teachers and the students; students will not be able to clarify

their doubts from the teachers, and may encourage indiscipline on the part of the learners. These findings align with previous research, which highlights that while technology can enhance educational flexibility, it also introduces challenges in maintaining teacher-student interaction (Singh, 2020). Another outcome of the study is that, no differences on the viewpoints of teachers are found on the basis of the type of school, location and gender. This suggests that teachers' perceptions of e-content may be influenced more by their individual experiences with technology rather than external demographic factors, as noted in studies by Kumar and Patel (2019). Furthermore, researchers have argued that adequate training and institutional support could address many of the concerns raised, thereby increasing both the perception and acceptance levels among teachers (Sharma and Joshi, 2021).

Conclusion

Technological advancement in the field of education is an urgent necessity. Through the present study it is found that high school teachers neither hold a high perception nor do they highly accept the use of e-content. It is a matter of concern that they continue to distance themselves from e-content, even when technology influences nearly every sphere of our life. E-content is a relatively simple tool yet teachers do not choose to use it in the teaching-learning process. However, the study indicates that teachers feel that e-content maximises flexibility in teaching-learning process, can encourage self-learning among learners, and can increase technical efficiency of teachers and the students. This study shows that teachers are in a state of dilemma about whether to fully accept the e-content or not. Therefore, steps should be taken to increase the use of this kind of technological aids in the teaching and learning process. This integration process can be started by blending technology in the regular classroom and using e-content. This will encourage self-directed learning among students which will be beneficial for the students in the long run. E-content will prove to be a positive emphasis in the development of the latest methods for effective teaching and learning. It provides students with access to necessary resources, which will build their confidence and in turn, will encourage them in becoming an independent learner.

Limitations of the present study

1. The teachers from lower Assam and middle Assam areas of North East India were included in the present study but teachers from upper Assam areas were excluded as the sampling was done using convenient sampling techniques. Hence, the result for the perception and acceptance of teachers is related to those two areas only and not to the teachers of the whole state of Assam.
2. The sample for the study is not too large. So, it is not safe to generalise the findings to the whole teachers group of high school teachers of Assam. Also, it cannot be said that perception and acceptance for e-content of all the teachers are the same.

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