

## POST GRADUATE BIOLOGY TEACHERS' ATTITUDE TOWARDS USE OF 360° VIDEOS IN CLASSROOM

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### Abstract

*The Large-scale diffusion of technologies offers new opportunities in education. In particular, 360° videos emerged as a promising technology for enriching the teaching-learning process by offering an immersive environment when it is used in the classroom. In this present study, the attitude of postgraduate biology teachers towards the use of 360° videos in the classroom is investigated. A sample of 62 post-graduate biology teachers in the Theni district served as the subjects of the study. The attitude scale towards the use of 360° videos in the classroom was constructed and standardized by the investigator was used. Results show that demographic variables such as gender, Frequency of technology usage, earlier use of 360° videos for teaching and ICT skills were found to exert influence on attitude. This study reveals that postgraduate biology teachers who are 44 & below years of age, who have 12 & below years of teaching experience and who holds an advanced level of technology experience have a favourable attitude towards the use of 360° videos in the classroom than their counterparts. The implications of these findings are discussed.*

**Keywords:** Attitude, 360° Videos, Usefulness of 360° Videos in the Classroom.

### Introduction

In present days, Digital native learners have differential learning styles, to meet these changing and diverse learning styles as well as new educational demands and requirements, educational techniques should be modified. Information and communication technologies have been incorporated into education and technology-enhanced learning methods have been implemented to raise the quality of education to meet these new requirements and adapt to the new conditions.

Additionally, technology-enhanced learning has evolved into a crucial component of 21<sup>st</sup>-century education since it enables quick and simple access to information and services and makes the development of immersive virtual learning environments possible. It has been demonstrated that 360° video is a powerful educational tool that meets new educational demands and improves the teaching and learning environment. 360° video is a successful instructional tool that meets new academic demands and enhances the method of instruction and learning.

### Need for the Study

360-degree films provide novel teaching-learning opportunities as a teaching and learning medium. They increase the benefits of traditional video technology by allowing for immersion, unique 360° panoramic visuals, multi-perspective viewing options, and interactivity opportunities. To comprehend how 360-degree video technology may be applied in the educational process, In the past, the use of high-

quality educational technology applications in education was constrained by prohibitive costs and time-consuming procedures. These obstacles can now be removed by more affordable technology suppliers and innovative video technologies. 360-degree movies in particular offer a low-cost option for video-based instruction, which expands the benefits of conventional videos through immersion and multi-perspective reflection. The use of 360-degree films in conjunction with desktop computers, smartphones, or even smartphones equipped with inexpensive head-mounted displays made of cardboard may now be adopted effectively in the classroom. Even this can act as an excellent resource for blended learning.

### **Terms and Definitions**

**Attitude-** refers to the views and beliefs of the teachers towards the use of 360<sup>0</sup> videos in the classroom.

**Postgraduate Biology Teachers-** refers to a teacher who is teaching biology subject for higher secondary school students.

**360<sup>0</sup> Video-** refers to a circular view with several viewing angles and viewpoints offered by 360<sup>0</sup> video.

### **The Variable of the Study**

#### **Dependent Variable**

Attitude towards the use of 360<sup>0</sup> videos in the classroom.

#### **Demographic Variables**

1. Gender
2. Age Group
3. Teaching Experience
4. Technology experience
5. Frequency of technology usage
6. Smart Board facility
7. Earlier use of 360<sup>0</sup> videos in teaching
8. ICT Skill

#### **Objectives of the Study**

1. To measure the level of attitude towards the use of 360<sup>0</sup> videos in the classroom among post-graduate biology teachers.
2. To find out, whether there is any significant difference among postgraduate biology teachers' attitudes in terms of selected demographic variables Viz., Gender, Age Group, Teaching Experience, Technology experience, Frequency of technology usage, Smart Board facility, Earlier use of 360<sup>0</sup> videos in teaching, ICT Skill.

### **Hypotheses of the Study**

1. The postgraduate biology teachers have below average level of attitude towards the use of
2. 360° videos in the classroom.
3. Gender exerts a significant influence on the attitude towards the use of 360° videos in the classroom among post-graduate biology teachers.
4. Age Group exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.
5. Teaching Experience exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.
6. Technology Experience exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.
7. Frequency of technology usage exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.
8. Availability of smart board facility exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.
9. Earlier use of 360° videos in teaching exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.
10. ICT Skills exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers.

### **Methodology**

#### **Sample**

A simple random sample of Sixty-two postgraduate biology teachers from government schools in the Uthamapalayam Education district in Theni was treated as samples for the present study.

#### **Tool Used**

1. Personal data sheet structured by the investigator.
2. Attitude scale on use of 360° videos in the classroom among postgraduate biology teachers developed and standardized by **Vennila Manassadevi, S.V. (2023)**.
3. The self-developed attitude scale was used. It consists of 26 statements. Each statement was scored based on a three-point scale. The t-test value of each statement, which has 1.96 and above is selected. Out of 26 statements 20 statements were finalized. The split-half reliability was tested and content and item validity are seen.

## Statistical Treatment

1. 't-test for a large independent sample is used for the data analysis.

## Delimitations of the Study

- This study involves only eight variables, even though there are 'n' number of variables related to the usage of 360° videos in the classroom. This is one of the delimitations of the study
- This study involves only Postgraduate Biology teachers while there were other subject teachers. This is another delimitation of the present study.
- The number of teachers participating in the study is another drawback. The sample population is merely small in this study.

## Analysis of Data

### Hypothesis 1

The postgraduate biology teachers have below average level of attitude towards the use of 360° videos in the classroom.

The empirical average score is found to be 35 while the theoretical average is 20 only. This shows that postgraduate biology teachers have above average level of attitude towards the use of 360° videos in the classroom. In other words, postgraduate biology teachers have a more favourable attitude towards the use of 360° videos in the classroom.

## Differential Studies on Attitude towards the Use of 360° Videos in Classroom

The details of the results of a test of significant difference between the mean scores of attitude towards the use of 360° videos in the classroom in terms of demographic variables are presented in the following table.

**Table 1 Statistical Measure and Results of Test of Significance for Difference Between the Means of Attitude towards Use of 360° videos in Classroom: Demographic Variable-Wise**

Variable	Sub-Variable	N	M	SD	't'-Value	Significance At 0.05 level
Gender	Male	22	35.32	2.71	0.604	Not Significant
	Female	40	34.83	3.64		
Age Group	Up to 44	34	35.91	2.91	2.433	Significant
	45 & above	28	33.89	3.51		
Teaching Experience	Upto 12 years	37	35.76	2.92	2.160	Significant
	13 & above	25	33.88	3.62		
Technology Experience	Intermediate	56	34.63	3.28	7.878	Significant
	Advanced	6	38.50	0.53		
Frequency of technology usage	Occasionally	40	34.90	3.59	0.339	Not Significant
	Always	22	35.18	2.86		

Availability of Smart Board facility	Available	49	34.55	3.35	2.415	Significant
	Not available	13	36.69	2.69		
Earlier use of 360° videos in teaching	Yes	37	34.73	3.19	0.761	Not Significant
	No	25	35.40	3.54		
ICT Skill	Yes	49	35.51	2.81	1.885	Not Significant
	No	13	33.08	4.42		

### Hypotheses Verification

1. The postgraduate biology teachers have below average level of attitude towards the use of 360° videos in the classroom-Rejected
2. Gender exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Rejected
3. Age Group exerts significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Accepted
4. Teaching Experience exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Accepted
5. Technology Experience exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Accepted
6. Frequency of technology usage exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Rejected
7. Availability of smart board facility exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Accepted
8. Earlier use of 360° videos in teaching exerts significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers-Rejected
9. ICT Skills exerts a significant influence on the attitude towards the use of 360° videos in the classroom among postgraduate biology teachers- Rejected.

### Conclusion and Discussion

- The Postgraduate biology teachers have above average level of attitude towards the use of 360° videos in the classroom.
- Attitude towards the use of 360° videos in the classroom among Postgraduate biology teachers' is found to be influenced by
  1. Gender
  2. Frequency of technology usage
  3. Earlier use of 360° videos in teaching
  4. ICT Skills

- Attitude towards the use of 360<sup>0</sup> videos in the classroom among Postgraduate biology teachers' is found not to be influenced by
  1. Age group
  2. Teaching experience
  3. Technology experience
  4. Availability of smart board facility
- Attitude towards the use of 360<sup>0</sup> videos in the classroom among Postgraduate biology teachers' is found higher among those
  1. Who are up to 44 years of age than those who are 45 and above years of age?
  2. Who has up to 12 years of experience than those who have 13 and above years of teaching experience and
  3. Who has an advanced level of technology experience than those who have an intermediate level of technology experience.

It is favourable that the attitude towards the use of 360<sup>0</sup> videos in the classroom among Postgraduate biology teachers' is above the average level. In particular, this study showed that post-graduate biology teachers viewed 360-degree videos positively.

The study reveals that attitude towards the use of 360<sup>0</sup> videos in the classroom among Postgraduate biology teachers' is found low among those who are male, those who frequently use technology for teaching, those who have not used 360<sup>0</sup> videos earlier for teaching and those who have poor ICT skills. Training may be given to the above-mentioned teachers to facilitate a favourable attitude.

Based on the findings, initiatives should be taken to educate the educational community on the advantages of utilising this pedagogical strategy and how to include 360<sup>0</sup> videos into the already-existing curriculum. Since 360-degree videos can be a great instructional tool that improves academic achievement.

The findings of the study are constructed to be contributing to the field of education, as it discovers attitudes that highlight the use of 360<sup>0</sup> videos in the classroom. It is also hoped that the findings would be helpful for the teachers, trainers and administrators.

While teaching the biological sciences, the teacher needs to fulfil the real-time experience among the students. Provided the teaching with technology like 360<sup>0</sup> videos teacher and students understand the concepts and visual appeal of any content without distraction. For this, the institution should provide the opportunity to handle smart boards or smartphones in their classrooms. That the teachers also gain knowledge about the recently emerging technologies for their professional upliftment.

### **Educational Implications**

This study reveals that attitude towards the use of 360<sup>0</sup> videos in the classroom among Postgraduate biology teachers' is found low among those who are male, those who frequently use technology for teaching, those who have not used 360<sup>0</sup> videos earlier and those who have poor ICT skills. The following steps can be taken to foster a favourable attitude towards the use of 360<sup>0</sup> videos in the classroom.

Training may be given to the above-mentioned teachers regarding the usage of technology for teaching. Educational authorities take necessary steps to create awareness among teachers towards the use of such emerging technologies and other technological tools to increase learning outcomes by incorporating them in the classroom. Further research studies have to be carried out to find out other potential benefits related to the topic of this study.

### **Suggestion for Further Research**

The following research from the present study can be taken up for further investigation

- Replica of the present study among teachers at all levels of school education.
- Replica of the present study among teachers teaching other subjects.
- Replica of the present study in another district.

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