Teaching Code of Ethics through Interactive Videos to Enhance Learner's Engagement, Interest, and Performance

[1]Abbas Wahab, [1]Tahira Anwar Lashari [2]Sana Anwar Lashari, [1]Jaudat Mamoon, [1]Erum Afzal
[1] School of Electrical Engineering and Computer Sciences, National University of Sciences and Technology, Islamabad, Pakistan
[2]School of Applied Psychology, Social Work & Policy, Universiti Utara Malaysia, Sintok,Kedah, Malaysia.

Article History: Received: 10 December 2020; Revised 12 February 2021 Accepted: 27 February 2021; Published online: 5 May 2021

Abstract: In the fast-paced era of educational digitization, the nature of learning styles has been changing drastically, over the time with novel learning practices. In this study, to enhance a self-paced and personalized student learning experience, an integrated approach was implemented, based on the latest system of HTML5-based interactive videos content (H5P). The proposed approach accommodated to student's affective and cognitive learning needs. The underpinnings of theoretical foundations included Brame's effective educational videos framework, and Gagne's Instructional design model. An experimental design was carried out to test the effectiveness of interactive videos in teaching the university code of ethics, which would result in better knowledge retention. Students were randomly selected from different universities (N=200). The participants were taught the university's code of ethics, policies, and procedures using the developed interactive videos-based course of Code of Ethics, and subsequently their interest, engagement, and performance were evaluated. Descriptive and inferential statistics were used for analysis. It was found that the interactive videos help to enhance the level of interest and engagement among the participants, which leads to result in enhancing student performance due to knowledge retention.

Keywords: interactive videos, code of ethics, teaching strategy, interest, engagement, and performance.

1. Introduction

Code of ethics is one of the basic pillars for achieving a healthy and secure university environment. It is supportive in supplementing certain important values to complement the overall augmentation of the university system, protecting its members from all sorts of unscrupulous modalities, including harassment and bullying(Prandner & Glatz, 2021)(Prandner & Glatz, 2021).Many of the concerns have admitted that students as well as teachers should be empowered in decision making. Both parties i.e., teaching staff and students have experienced tension between personal beliefs and professional code of ethics led to anxiety in moral values while facing ethical issues. Many students and staff entering the university, prefer to skip reading policies and procedures, consequently leading to unethical conducts. Ignorance of such critical aspects result in not only misconduct-related issues, but lack of knowledge on the procedures in case of dealing with such calamities. Additionally, failure in teaching these codes (such as for plagiarism) can be detrimental, leading to poor academic performance, further affecting social, as well as psychological wellbeing of the students and poor academic performance (Benlahcene et al., 2020, 2017; Lashari et al., 2018).

Many students and members entering in the university, prefer to skip spending time reading policies and procedures, consequently leading to unethical conducts. Ignorance of such critical aspects result in not only misconduct-related issues, but lack of knowledge on the procedures in case of dealing with such calamities. Additionally, failure in teaching these codes (such as for plagiarism) can be detrimental, leading to poor academic performance, further affecting social, as well as psychological wellbeing of the students (Benlahcene et al., 2020).

Within the realm of technological advancements, it seems quite unapprehensive and detrimental to teach university code of ethics, policies and procedures to students in the form of huge books, or lengthy readings. Keeping in view an educational perspective, technology seems to be a growing trend in enhancing the effectiveness of teaching and learning processes. Interactive videos have been used to enhance students' interest and engagement in learning content. Interactive layering in the videos have been seen to be effective in engaging viewers, in order to gain maximum attention and interest, further assisting the learners in developing self-study habits with personalized learning experiences (Shelton et al., 2016).

Western countries like US and Europe, have been seen to be using virtual learning environments (VLEs) in higher education, which is still going in upward momentum, amid a lot of criticism. Some universities prefer the method as students enjoy this way of learning, which allows them to learn at their own pace (Pauling, 2006).

In Pakistan's context, there is not much work carried out related to teaching strategies pertaining code of ethics, rules, procedures and policies in higher education. Most work is carried out at primary or secondary levels (Soomro & Tanveer, 2017). Moreover, most of the policies and procedures are either provided in writing, on institution's webpages, or in the form of huge manuscripts and handbooks provided. In the 21st century era, individuals are quite digitalized preferring to read more pdf formats, watch more video, and learn through visuals instead of using traditional ways of learning. They also rely more on digital technologies like mobile phones, tablets and laptop (Razzak et al., 2004). Furthermore, an increased number of incidences have made it an intensive need to work in this area. As reported by Pakistan Today (Khokher & Khan, 2005), in past four to five years, there has been an increase of reports of harassment cases in universities, in which students were unaware of what to do and how to report about it. And most of the cases has been reported from highly prestigious institutes of Pakistan. According to a report by (Razzak et al., 2004) certain ethical issues are causing problems to students, ending up to an alarming event of suicides. Therefore, in order to deal with issues, like harassment, plagiarism, and other academic and non-academic misconducts, a need to underline the importance of teaching and learning of code of ethics effectively with knowledge retention practices, was the main goal of this study.

According to the latest research by (Stoesz & Los, 2019), students are more motivated and interested to learn about academic integrity through online tutorials than reading materials or face to face communication, and had a higher retaining outcome and more positive implications (Stoesz & Los, 2019).

In this study, in order to teach effectively, and enhance learning experience in students about code of ethics, an innovative teaching methodology was developed, i.e., interactive videos. Initially, a need-analysis was administered that disclosed the limitations of existing teaching methodologies for codes of ethics and procedures, administered at university level, that were in the form of dreary reading materials. Moreover, majority of the students showed a positive response towards learning through interactive videos, than lengthy reading materials that seemed less interesting and engaging (Qureshi et al., 2021). According to a study by (Cummins et al., 2015), learners' interest and engagement levels have been found to be consistently high (71% to 86%), when using in-video quizzes. It has also been reported that, visual learning in the form of chunks, and modules makes the learning process more effective and interesting, resulting in an increase in learner's overall performance. Therefore, the goal of this study was not only to teach through an interactive virtual environment, but also evaluated to see whether students could retain the right knowledge about the policies and procedures, or not. In this research study, a system based on HTML5-based interactive video contents (H5P) have been implemented, to allow user interaction with the video lectures, by adding pop-up text, multiple choice, and true/false questions, provided through a web browser using an online learning platform, such as LMS and WordPress interface. In order to design and develop effective video contents for teaching code of ethics, policies and procedure, a virtual learning environment was created, using combined instructional models of Brame and Gagne, to further enhance and engage learners with the learning content. Brame's model was applied in the creation of educational videos, while Gagne's instructional model was adopted as effective pedagogy for the entire course with personalized learning experience through interaction that engaged the learners with content, while keeping a high level of interest.

Following are the main objectives of this study:

1. To evaluate the effectiveness of interactive videos in teaching university code of ethics, policies, and procedures through increased student interest, engagement and performance.
2. To assess the relationship between student interest and engagement on student's performance in the designed course of Code of Ethics, to predict future outcomes.

2. Related Work

2.1 Code of Ethics

Ethics are those set of rules and codes that create a well-disciplined and secure environment by reducing unethical behaviours and activities.

2.2 Learning Environment (VLE)

These are web-based learning platforms and online tutorials, which work great to cover the pace of learning, and the willingness of learners. These consist of using the constructivist approach, where students have been provided with contents and materials, in different shapes, and are given independence to learn it (Garrison et al., 1999). Virtual learning environments are a great addition to university courses, as it gives freedom of learning to students, where learners can enjoy learning, without facing any hurdles. According to (ISIDORI et al., n.d.), the development of Virtual Learning Environments (VLE), using web-based technologies, have a great deal of impact on educational practices, i.e., teaching and learning.

2.3 Student's Interest

It can directly increase a learner's ability of learning and as a result, the learner pays more attention, and remains engaged with the situation. In short, interest is very viable in prediction of learner's success, and performance. Teaching methodology has great impact in enhancing students' interest, engagement, and performance. According to researchers, student's regular poor performance is often linked with ineffective pedagogies, which create a gap between the learner and teacher (Ganyaupfu, 2013). For effective learning, it is very important to keep participant actively engaged in the learning process. Students with higher level of interest have higher academic achievements (Mazer, 2017).

2.4 Student's Engagement

Learner's engagement has a great deal of importance in educational psychology. Engagement is not only confined to active learning, however making sense of the engaging body is also very important (Gunuc & Kuzu, 2015). Learning is required to gain the attention of the learner. Grabbing attention is the hardest part of learning with having individual differences of the learners. It is very important to engage learners to have better learning outcomes. Effective technology integration can play a very important role in a student's engagement. (Krause & Coates, 2008) proclaimed about student's engagement that it has strong relationship with student's academic outcomes i.e., performance improvement. This highlights the importance of a student-cantered effective pedagogy which keeps the learners engaged in result it will have a positive impact on students learning outcomes and performance.

According to (Gunuc & Kuzu, 2015), student engagement has five dimensions mentioned, as valuing, sense of belonging, cognitive engagement, emotional engagement, and behavioural engagement. Student behaviours occurring inside and outside of the classroom that function as part of the teaching and learning process is known as student engagement. In this research valuing, sense of belonging, and cognitive engagement has been targeted while behavioural engagement was measured using questionnaires and virtual learning environment.

2.5 Student's Performance

Learner's performance assessment is very important in the learning and teaching process. It is very important to use effective methodology for content delivery. Teaching methodology has a great impact in enhancing students' interest, engagement which leads to higher performance. According to (Mazer, 2017) student's constant poor performance is often linked with ineffective pedagogies which create gaps between learners and teachers. Students with higher level of interest and engagement have higher academic achievements (Mazer, 2017). Many authors have emphasized that student's engagement and interest have a great deal of influences on higher academic performance (Dunleavy et al., 2012). For effective learning and higher academic

achievements, it is very important to keep participants actively engaged in the learning process as it will result in better learning experience.

3. Research Design

This study utilized quasi-experimental design which aims to determine a cause-and-effect relationship between an independent variable and dependent variable. The quasi-experimental design includes a sequential procedure of pre-test, intervention and post-test. The time duration between pre and post-test was one semester which is in-line with the suggestion by experts [3]. In this study the independent variable is the proposed approach (teaching code of ethics through interactive videos) and thee selected dependent variable are learner's engagement, interest and performance (See Figure1).

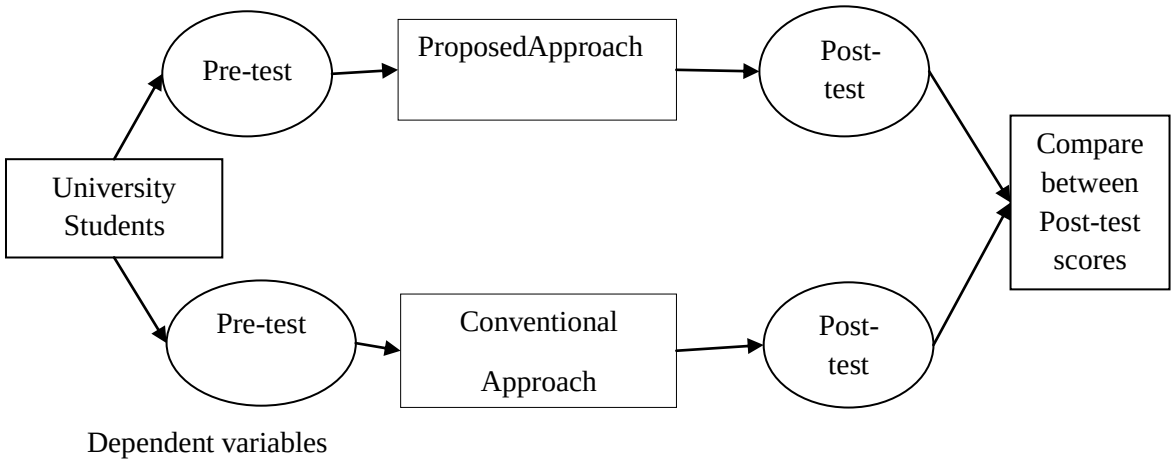

Figure 1. Procedure of Quasi Experimental Design

In order to test the effectiveness of interactive videos in teaching university code of ethics, which included a sequence of video demonstration, followed by a knowledge retention quiz and survey questions related to student interest and engagement.

3.1 Participants

The target population was students of first semester software engineering form three universities of Pakistan. The sample chosen were two intact classes of first year-first semester students, in the National Universities of Sciences and Technology (NUST). One class was taught using the proposed approach (experimental group); while other class was taught using the conventional method of teaching (control group). Two experiments were conducted at same time but with different instructors. A sample size of 100 undergraduate students of software engineering were taken from University of Malakand and total number of 60 undergraduate students of software engineering were taken from University of Swat. The purpose of conducting two different experiments was to determine the effect of intervention on dependent variables. The participants of NUST university were40 students and they were treated as experimental group. In-addition Swat University students were also treated as experimenter group; only University of Malakand was treated as the control group consists of 60 students. However, for this study only correlation and opinion regarding intervention was employed. Comparison on students' performance is not asses in this paper. Nevertheless, Alias &Tukiran (2010)

have suggested that a minimum of 30 subjects for correlational studies and 15 subjects per group for experimental research is adequate to be compared. Participants consisted of 13% female and 87% male. The average range of age in both classes was between 17 to 23 years old with a mean age of 19 years. In terms of teaching and learning culture, educational resources, and teaching staff, students are given equal opportunities. Therefore, it is expected that there is not much difference regarding students' educational background.

3.2 Procedure

After seeking permission from the university administrations, participants were shown an online help tutorial for using the online platform, after which they were asked to attempt the course provided on the developed webpage (www.teachcoe.com). The contents included, interactive video graphic lectures based on different modules, and scripts, and a final assessment in the form of a quiz. Self-administered questionnaires were used to gather feedbacks. Participants were allowed to use computers, laptops, or mobile phones, in order to answer those quizzes and questionnaires.

3.3 Instrumentation

Primary data was gathered using standard available instruments. Developing a new standard, reliable and valid instrument is time consuming and the newly developed instruments might not possess adequate validity and reliability (Golafshani, 2003; Malik et al., 2009). The existing available instruments were used that measure student interest, student engagement, virtual environment via learning management system (LMS) were employed using self-report questionnaire based on five-point Likert scale whereas student performance was measured using student's marks on the selected courseof Code of Ethics. The instruments were self-administered psychometric based scale.

Gall, Borg & Gall (2003) mentioned that, reliability refers to "the extent to which other researchers would arrive at similar results if they studied the same case using exactly the same procedures" as the initial researchers (p. 596). A test or instrument is considered to be reliable if the results are persistent. The current study concerned with the measures on psychological attributes therefore, the standard available data gathering tools were adapted and used. The significance level was set at $p<.05$. Reliability analysis using Cronbach's alpha was used to determine the reliabilities of selected variables of the study. Cronbach's alpha is a reliability coefficient which indicates the intercorrelation between the items in a set (Yamin, 2011). The closer the Cronbach alpha is to 1, the higher the internal consistency reliability.

The Cronbach's Alpha is considered as appropriate reliability statistics due to the number of choices within the Likert scale (Jones, 2007). Afterwards the resulted coefficient alpha was compared with the pre-existing estimated reliabilities.

Table 1. Baseline and post-test reliability estimates on the research instruments

Sr. No.	Items	Instruments	Reliability estimates on baseline	Reliability estimates on post-test
1.	29	Performance Test	.853	.877
2.	32	Engagement Scale	.782	.820
3.	35	Interest Scale	.812	.853

The reliability of the performance test, engagement scale and interest scale has been reported to be ranging from 0.782 to 0.877 using retest reliability method [26]. In the current study, a reliability of 0.877 using

the test-retest reliability method with eight weeks interval was obtained indicating an adequate reliability based on the previous researches.

The validity of the instruments is based on the content validity. Content validity help researcher in ensuring construct validity and give confidence to the readers and researchers about instruments. Content validity refers to the degree that the instrument covers the content that it is supposed to measure. For content validity two judgments are necessary: the measurable extent of each item for defining the traits and the set of items that represents all aspects of the traits (Yaghmaei, 2003). Therefore, content validity provides an evidence of ratings of item relevance by content experts.

Moreover, demographic information was obtained through the demographic data. Demographic data provides a unique forum for material that such as descriptive findings which gives a meaningful result to assist in a making a decision. Data were gathered on name, age, gender and academic performance. The dummy codes were also used in the study because the data on gender and groups considered a categorical data. These demographic data were coded numerically in computer software statistical package of social sciences (SPSS) version 20 in the following order.

- Gender: gender will be coded either 1 (male) or 2 (female).
- Group: group was coded either 1 (experimental group; EG) or 2 (control group; CG).
- Participant University sector: Participant of NUST University coded as 1 (semi-government), 2 (University of Malakand; government university) and 3 (University of Swat; government university).
- Participant study year: Participant study year will be coded 1 (1-2 years), 2 (3-4 years), 3 (4-above years).
- Participant Number of students: Participant Number of students will be coded 1 (public), 2 (semi-government).

Descriptive statistics related to the universities and to the students enrolled in the 2018-2019 university year can be found in Table 1. Data pertaining to students' gender, study year, and university sector can be found in Table 2.

Table 2. Descriptive information on participant's university sector

Factor	*N*
Participant University sector	
Semi Government (NUST)	40
Public (UOM)	100
Public (UOS)	60
Total	200

Written permission to use instruments will be obtained from the relevant authorities. Secondary data on course marks and Cumulative Grade Point Average (CGPA) were obtained from exiting examination records. The details on each of the instrument is given below.

3.3.1 Student Interest

Students' interest was measured using learner's interest (Mazer, 2017) during the course. The questionnaire was previously validated by various studies (Mazer, 2017). The scale consisted of two subscales that measured the emotional interest (nine items) and cognitive interest (seven items). All the items were rated on a 5-point Likert scale ranging from 1= strongly disagree to 5= strongly agree.

3.3.2 Student Engagement

Video Engagement Scale established by Visser was used to analyse how much the learners stayed engaged while viewing the videos (Visser et al., 2016). The scale consisted of 15-items that was based on five-dimensions (attention, going into a narrative world, identification, empathy, and emotions).

For further analysis, total scores for, assessment tests based on interactive videos, engagement scale and interest scale, were divided into three ratings; high, average, and low. These ratings were as shown in the Table. 3:

Table 3. Ratings for student's performance, interest, and engagement

Performance Test Assessment Rating: Total was 140 (28*5)	
Ratings	Criteria
High	>93
Average	47-93
Low	<47
Engagement Scale Rating: Total was 75 (15*5)	
Ratings	Criteria
High	>50
Average	25-50
Low	<25
Interest Scale Rating: Total was 115 (23*5)	
Ratings	Criteria
High	>76
Average	38-76
Low	<38

3.3.3 Virtual learning environment (VLE)

An online virtual learning environment was developed i.e., Learning Management System to give a self-paced learning experience. VLE consisted of seven video modules, each describing a topic about different aspects under code of ethics i.e., Values. All the contents were uploaded using different plug-ins. The main plug-in used was H5P, which allowed to add interactivity components to video lectures, and made it more interesting, and engaging. Pop-questions and multiple-choice questions were added to the video components for students' engagement. While accessing the website, Teach COE, the users were first trained on the use of LMS. Users were asked to enrol in the course by creating student's account, by entering username, email and password, which also required participants to give a consent for participating in research. After registration, participants started course lectures. Small case studies were used for practicing real life situations during the interactive video lectures.

After watching lectures, an assessment quiz was provided to check the performance of the participants. All the interactions and responses were recorded in the online database, created at the back-end of the LMS. Survey forms were used to collect data from respondents about interest and engagement. Option of skipping videos and questions were disabled to make sure that students could experience and watch all lectures.

4. Results

Before analysing the data, the process of data cleaning was initiated where identification for missing data and normality was made. The amount of missing data is the current study comprised of 2.8% of the total data among the scales, where participants that missed more than 30 % of the total scale were removed (Tabachnick&Fidell, 2007). However, those participants that missed less than 10 % were dealt using item mean substitution (IMS) (Bono, Ried, Kimberlin, & Vogel, 2007; Zhang & Goodson, 2011). Data depicts univariate normality that ranged between -1 to +1. After cleaning the data for missing data and normality it was computed on which Pearson correlation was measured the results of which are displayed in table 1 below depicts the standard deviations, Cronbach alpha, mean values, and zero-order correlations among study variables.

Table 4. Correlation, Mean, standard deviation and Cronbach alpha of the Variables

	Variables	**1**	**2**	**3**
1.	Student Interest	1	.18*	.12*
2.	Learner Performance		1	.16*
3.	Student engagement			1
	M	2.71	2.64	2.66
	SD	.47	.48	.48
	Cronbach's alpha	.97	.94	

As shown in Table. 3, the results obtained were positively significant in case of relationship between learner's interest and performance i.e.,18* ($p<0.05$). Moreover, relationship between interest of participants and engagement was also positively significant, i.e., .12* ($p<0.05$). The directionality of both variables can be found to be poignant in the same direction, pertaining that high engagement of participants and interest leads to higher scores on assessment test performance.

Table 5. Step-wise regression analysis for test scores of code of ethics assessment, engagement, and interest scales for interactive videos (N=200)

Test scores of Code of Ethics

	R^2	ΔR^2	B	SE	β	t	F(df)
Step 1							
Engagement	.03		.12	.05	.16	2.28*	5.18*(1,198)
Step 2							
Engagement	.04	.01	.11	.05	.15	2.18*	4.36*(2,197)

Interest			.09	.05	.13	1.87	

Note. R2 = R square, ΔR2 = R squared change, B = unstandardized beta, SE = standard error, β = standardized beta, *p< 0.05.

A stepwise regression analysis was also carried out to determine whether controlling variables (engagement and interest) gave any differences in the overall relationship with assessment scores. Therefore, interest was taken as a control to find the relationship between engagement and assessment score. It can be observed in Step 1 (as shown in Table. 5), that the scores on t-test were significant, which proclaims that the null hypothesis was rejected. On the other hand, if we take the relationship of both participants' interest and engagement on assessment scores, difference of .01 has been observed in the significant relationship. It can be derived from the results that even if the participant is not taking interest, an engaging teaching methodology can help the participant to perform better in overall assessment test score.

5. Discussion and Implications

The study aimed to develop teaching strategy for teaching code of ethics through an innovative way by interactive videos through a virtual learning environment. It had been observed that code of ethics, policies and procedure were only given at the time of admission to students in some university, while some had posted it on website for reading, but in actuality none of the students showed interest in reading them. This is one of the reasons behind lack of awareness, which lead to variety of misconducts, like harassment, bullying, plagiarism, and other academic and non-academic misconducts. The critical part of this research was development of video content with effective and quality-driven teaching methodology, which would lead to positive subsequent outcomes. Brame's educational framework [22] and Gagne's instructional model [23] were used as a tool to develop interactive videos. According to Brame [22], three things are very important in making effective educational videos: cognitive load, effective engagement, and active learning, i.e., interest and motivation in the learning process. The content of interactive videos was developed in view of these features. Interactions in the videos allowed participants to effectively engage with the content so they would not be able to skip the video lectures and stay in-volved in the learning process due in video interactions.

Second important model used was Gagne's instructional model. Videos were developed keeping in mind the Gagne's nine steps of designing instructions. The first step was to gain participants' attention by video lectures, and developing the objectives at the beginning the course by informing them about basics of code of ethics, i.e., values. Objectives were clarified to the participants. Secondly, in-video questions were asked to check and recall prior knowledge of participants. Thirdly, all topics related to code of ethics were explained one by one with best possible examples to clear the perception of participants regarding different codes of conducts. In the fourth step, learners were provided with information in the form of modules, i.e., chunks of learning packages with embedded interactions. In the fifth and sixth step immediate feedback were given to participants, and progress was shared at the end of each video lecture. In seventh, eighth and ninth step, interactive videos containing case studies and quizzes were developed, to assess the performance of participants. After course completion, a result card was reflected on the screen for the learner to see the overall progress and performance of the participant.
In this research it has been tested that providing an effective and engaging teaching methodology enhances interest and engagement level of learner, leading to enhanced knowledge retention, which was analysed through the student's performance on the provided tests in the course of Code of Ethics. According to (Cummins et al., 2015), interactive videos are effective in increasing level of consistent learning with high level of students' interest and engagement. In comparison to this research, working data obtained from this research has also shown significant effect of students' interest and engagement on the students' performance, as all participants scored high in the assessment test.

The descriptive statistics has indicated that the students tend to learn better when material is provided in visual representation (n = 65; 32.5) and learning by doing (Kinaesthetic n =76; 38 %), compared to other preferred learning styles that included auditory (n = 14; 7 %) and VAK (n = 45; 22 %).

Looking into the results of this study, the Descriptive further shows that students have shown that they were highly interested i.e., 143 (72%) students, and 142 (71.5%) students were highly engaged with the contents. According to (Linvill, 2014), student engagement and interest are positively linked to learning outcomes, and

knowledge retention, i.e., student performance (Linvill, 2014; Mohamad et al., 2021). Previous literature also support that interactive videos increase student engagement and interest (Benkada & Moccozet, 2017). It has been noticed that interactive videos have successfully gained the interest of learners, and kept them engaged in the course, which has resulted in the increased performance of the students in the assessment test scores. Moreover, descriptive analysis measuring behavioural engagement has also revealed that student engagement and interest levels were significantly high for those who has shown excellent performance.

This research provides a great deal of value, adding service to institutions by highlighting importance of learning about code of ethics, policies, and procedures in an interactive way, which is a building block and a critical issue for an institution. It is going to provide a great platform for the educational institutions to make the environment free from immoral and maladaptive behaviours, such as harassment and other academic misconducts. With information related to code of ethics, properly administered, none of the members can claim, if found guilty, that they were not aware of the code of conducts, policies, and procedure, as it will be in the record of the institution, making judgement and evaluation processes easier for the institutional management.

6. Conclusion

In this research, interactive videos have been used to teach code of ethics to students. The purpose of this study was to bring positive changes in overall morality and academic integrity in universities. In order to achieve certain learning goals of ethics and morality, educational institutions need to provide an interesting and engaging learning environment, to inculcate both ethical and moral teachings, and reap positive outcomes. Overall, this paper concluded that interactive videos are more effective in teaching code of ethics, policies and procedures. It is also suggestive that Brame's and Gagne's model are effective frameworks for designing educational interactive videos. Moreover, it is noted that interactive videos are an effective way of teaching to all kinds of learners, hence enhancing and increasing interest, engagement, and overall performance of the learners.

7. Limitation

In light of the current study, it would be viable to consider that a longitudinal study may be conducted. It will help in measuring students' retention for code of ethics and measuring its implications in the future.

This course is important for the freshmen students and faculty, who have secured admission or job in the institution, to let them know about the policies and procedures of institution. It will provide a great platform for the organization to make the environment healthy and free of insecurities, such as harassment and behavioural misconducts. With information related to code of ethics, properly administered, none of the members can claim, if found guilty, that they were not aware of the policies and procedure, as it will be in the record of the institution, making judgement and evaluation processes easier for the management. A long-term study will be really handy to check future impact and result. The research method can be reshaped as same participants can be tested to both methodologies to check the impact and result again i.e., Pre-test and Post-tests. The research can be tested on largest possible sample.

8. Acknowledgement

The authors would like to express their gratitude to the Research & Development Cell and School of Electrical Engineering and Computer Sciences (SEECS), National University of Sciences and Technology (NUST) for technical support and funding.

9. References

1. Benkada, C., & Moccozet, L. (2017). Enriched interactive videos for teaching and learning. *2017 21st International Conference Information Visualisation (IV)*, 344–349.
2. Benlahcene, A., Lashari, S. A., & Lashari, T. A. (2017). Goal-orientation, epistemological beliefs towards intrinsic motivation among engineering students: A review. *IOP Conference Series: Materials*

Science and Engineering, *226*(1), 12192.
3. Benlahcene, A., Lashari, S. A., Lashari, T. A., Shehzad, M. W., & Deli, W. (2020). Exploring the Perception of Students Using Student-Centered Learning Approach in a Malaysian Public University. *International Journal of Higher Education*, *9*(1), 204–217.
4. Cummins, S., Beresford, A. R., & Rice, A. (2015). Investigating engagement with in-video quiz questions in a programming course. *IEEE Transactions on Learning Technologies*, *9*(1), 57–66.
5. Dunleavy, J., Willms, J. D., Milton, P., & Friesen, S. (2012). The relationship between student engagement and academic outcomes. *What Did You Do in School Today*.
6. Ganyaupfu, E. M. (2013). Teaching methods and students' academic performance. *International Journal of Humanities and Social Science Invention*, *2*(9), 29–35.
7. Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, *2*(2–3), 87–105.
8. Gunuc, S., & Kuzu, A. (2015). Student engagement scale: development, reliability and validity. *Assessment &Evaluation in Higher Education*, *40*(4), 587–610.
9. ISIDORI, E., SANDOR, I., SALVADOR-GARCIA, C., & FAZIO, A. (n.d.). *The 14th International Scientific Conference eLearning and Software for Education Bucharest, April 19-20, 2018*.
10. Khokher, S., & Khan, M. M. (2005). Suicidal ideation in Pakistani college students. *Crisis*, *26*(3), 125–127.
11. Krause, K., & Coates, H. (2008). Students' engagement in first-year university. *Assessment & Evaluation in Higher Education*, *33*(5), 493–505.
12. Lashari, S. A., Kaur, A., & Awang-Hashim, R. (2018). Home away from home-the role of social support for international students'adjustment. *Malaysian journal of learning & instruction*, *15*(2), 33–54.
13. Linvill, D. (2014). Student interest and engagement in the classroom: Relationships with student personality and developmental variables. *Southern Communication Journal*, *79*(3), 201–214.
14. Mazer, J. P. (2017). Associations among classroom emotional processes, student interest, and engagement: A convergent validity test. *Communication Education*, *66*(3), 350–360.
15. Mohamad, N., Othman, A., Ying, T. S., Rajah, N., & Samsudin, N. (2021). The Relationship between Massive Online Open Courses (MOOCs) Content Design and Students' Performance. *International Journal of Interactive Mobile Technologies*, *15*(4).
16. Pauling, B. (2006). Virtual learning environments in higher education "down under." In *The International Handbook of Virtual Learning Environments* (pp. 609–652). Springer.
17. Prandner, D., & Glatz, C. (2021). News repertoires and information behavior in Austria—What is the role of social inequality? *Österreichische Zeitschrift Für Soziologie*, *46*(1), 45–67.
18. Qureshi, M. I., Khan, N., Raza, H., Imran, A., & Ismail, F. (2021). Digital Technologies in Education 4.0. Does it Enhance the Effectiveness of Learning? A Systematic Literature Review. *International Journal of Interactive Mobile Technologies*, *15*(4).
19. Razzak, J. A., Luby, S. P., Laflamme, L., & Chotani, H. (2004). Injuries among children in Karachi, Pakistan—what, where and how. *Public Health*, *118*(2), 114–120.
20. Shelton, C. C., Warren, A. E., & Archambault, L. M. (2016). Exploring the use of interactive digital storytelling video: Promoting student engagement and learning in a university hybrid course. *TechTrends*, *60*(5), 465–474.
21. Soomro, M. H., & Tanveer, S. H. (2017). Ethics and education in Pakistan: Principles, policies and practice. In *Children and sustainable development* (pp. 385–396). Springer.
22. Stoesz, B. M., & Los, R. (2019). Evaluation of a tutorial designed to promote academic integrity. *Canadian Perspectives on Academic Integrity*, *2*(1), 3–26.
23. Visser, L. N. C., Hillen, M. A., Verdam, M. G. E., Bol, N., de Haes, H. C. J. M., & Smets, E. M. A. (2016). Assessing engagement while viewing video vignettes; validation of the Video Engagement Scale (VES). *Patient Education and Counseling*, *99*(2), 227–235.