Research Article

MONITORING, VIDEO AND AUDIO RECORDING CLASSROOMS BY CCTV CAMERAS: IRANIAN EFL STUDENTS' PERCEPTIONS

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Abstract

Nowadays our way of working and studying are becoming more and more cyber. So, we can't turn a blind to the fact that technology is already affecting our educational system. Abundant gadgets and equipment are being applied to schools, universities, and institutes for many specific reasons. One of which is installing cameras in classrooms. In Iran, some of the English language teaching institutes have installed cameras in their classrooms to monitor (and evaluate) teachers' and students' actions and performances. Some issues such as: whether both teachers and students are informed about the presence of cameras, the purposes behind installing cameras in classes, recording and monitoring classroom activities, and other aspects of equipping a classroom with cameras are not known clearly. The present study aimed to explore the perceptions and feedbacks of Iranian EFL students on video-recording and monitoring English language classrooms via CCTV cameras. In this study an attempt was made to find more about EFL students' beliefs and feedbacks on monitoring, video and audio recording classrooms by CCTV cameras in language institutes in Iran. The researcher himself designed a questionnaire having four different sections to gather students' feedbacks. The student participants (N=57) were supposed to answer the questionnaire via online google forms. The findings of the study revealed that students believed and claimed that there exist differences between camera-equipped classrooms and those that are not camera-equipped. *ASEAN Journal of Psychiatry, Vol. 24 S(Advancements in psychology and mental health), July-August 2023; 1-5.*

Keywords: Video and audio recording classrooms, Monitoring classrooms by CCTV cameras, Camera in class, CCTV cameras in classrooms, Monitoring, Monitoring and evaluation, Online monitoring classrooms by cameras in classrooms

Introduction

Hassard claims that Gates fails to consider variables such as the experience of the teacher, the number of students in the class that fears being deported, are on free or reduced lunch or dislike school. He also points out: there are many out of school factors that teachers have little or no control that may impact learning more than the competence of the teacher. The difference between pre and post-test scores is not a valid measure of what students learn in science class. As a research design, it's the weakest of the many education research protocols. Hassard believes video can be an effective tool for teachers only if they are in control of how, when, and why video technology is used in their classroom. Video can be used to gather digital images and movies on different pedagogical practices of students at work, discussions, and debates. Video, used in consultation with

teacher-research collaborative, can inquire into classroom instruction and learning. Video of various teaching methods can be assembled and put up on the web for use in staff development and teacher education. Hassard also argues that to think we can install a camera and use videos to correlate teacher behaviour with student achievement scores is not only unnerving, but there isn't much support in the research literature to confirm that the use of video samples, which are observed by some hired bureaucratic, is unfeasible. What observation instrument will be used? Will the same observation or evaluation instrument be used to judge teacher performance without consultation with the teacher? Videos viewed in an observation booth hundreds of miles from the teacher's school are without context, emotion, feeling, and an intuitive aspect of teaching. Teaching is as much an art as it is science. Hassard also says teaching should be explored using videotape technology.

But we ought to be cautious about how to use videos, who decides when and how to use them, and the stakes that are on the table regarding the use of videos [1].

Effective classroom monitoring is a significant approach to promoting the efficiency of student's learning and teacher's teaching. Teacher's capacity for classroom monitoring is decisive to the quality of classroom teaching and a key element of determining teacher's activity and effects as well. "Classroom monitoring does not only monitor teacher's activity but also supervises student's learning process to achieve a harmonious atmosphere of teaching and learning". Monitoring and evaluation of the teachers during an hour lesson is one of the most important works of an inspector and the school principal as well [2]. The director (monitor) of the school, by observing the classes and analysing the collected data, often knows what is happening in his school. If the observations are infrequent or there are no adequate analyses after the end of the observing process, then they will have no value because they have been formally made. The monitor (inspector) has to be able to acknowledge and judge the performance of each teacher correctly. To achieve such shrewdness, there must be a developed systematic evaluation and monitoring of the class and the work of teachers. Not only that, but as far as the observer scrutinizes classes, he recognizes students better. The monitor (director, inspector) must possibly get to know all students in order to distinguish their individual features of mental work, inclinations, desires, and abilities. "Such a thing can only be achieved through one systematic observation of a teaching process as a whole" [3].

The process of monitoring can be defined as having three specific stages: First, an agreed understanding of what area(s) of activities must be considered and which quality indicators are being used as a focus (what do we want to know). Second, an agreed procedure in favour of finding the desired information (how can we find out). Third, an agreed method for recording results in order to progress constructive evaluations (how should the results be collected). All three procedural stages must be in place before the monitoring activities commence [4].

Now that we are living in a modern era and our way of working and studying is becoming more and more cyber, we can't turn a blind on the fact that technology is already affecting our educational system.

The present study aims to explore the perceptions and feedbacks of Iranian EFL students on video-recording and monitoring of English language classrooms via CCTV cameras. To the best of the researcher's knowledge, no study has delved into this issue so far.

RQ: From students' perspectives, what is the difference between teaching and learning in classrooms that are equipped and monitored with CCTV cameras, and teaching and learning in classes that are not camera-equipped?

Literature Review

Many researchers have commented on the behaviours that influence students' performances have pointed out those students who are distracted by watching videos, playing games, or texting while taking lecture notes on digital devices are far more likely to have their long-term memory affected. In this manner, the students perform more poorly in exams, even if short-term memory is not impacted. People like to think they can multitask. But this is a myth. What people are doing when they say they are multitasking is constant task switching. Although switching costs may be relatively small, sometimes just a few tenths of a second per switch, they can add up to significant amounts when people repeatedly switch back and forth between tasks (American Psychological Association. Multitasking: Switching Costs, 2019). Calfee and Piontkowski claimed that when we switch from one task to another task, the brain cannot continue and keep up with everything that it has just done. Therefore, there will be a delay as one's attention moves from one task to another [5]. When the students pay more attention in class, there is a higher probability of better achievement, as stated in the book of Calfee and Piontkowski: "Shannon reported positive correlations between the degree of attentiveness as measured by Morrison's cues and student achievement." The evidence which shows that digital devices influence the attention of students in the classroom is shown in a study by McCoy [6]. It showed "a belief among teachers that constant use of digital technology hampered their student's attention spans and ability to persevere in the face of challenging tasks." Additionally, a survey written in the study showed that 71% of teachers thought technology damaged students' attention. And 64% of people who took another survey said that technology did "more to distract students than to help them academically." Bernard's study also pointed out that students have also identified learning distractions caused by digital technology. Wei, Wang, and Klausner found out that texting during class partially affected a student's ability to self-regulate his/her sustained attention to classroom learning. In an earlier study, Wei and Wang noted a college student's ability to text and perform other tasks simultaneously during class might become a habit over time. Such habits may be defined as automatic behaviours triggered by minimum consciousness [7].

Two potential approaches can be taken to keep track of the actions/behaviours of students: surveys and quizzes. However, these two approaches are inconvenient, and lack objectiveness, since the people might not remember what they did exactly. With the development of the computer vision field, the work of recording and analysing students' behaviours in the classroom in real-time is not an impossible thing at present. Il-Hyun Jo and Park believe that a systematic understanding of each learner's educational needs is required, and they prepared customized instructional strategies and customized content by collecting, analysing, and systematizing learners' data [8]. Today, academic

analytics is one of the actions that can be captured with real-time data-reporting and predictive modelling, which helps suggest likely outcomes from familiar patterns of behaviour. The faculty might soon be able to use these data on behaviours as guides for course redesign and as evidence for implementing new assessments and lines of communication between instructors and students [9]. In particular, one of the possible reasons that make students do things other than pay attention to the lessons is poor lesson content during lecture time. Since then, from the data observed, the department of students might communicate to the lecturers to modify the content to be as suitable as possible for students. On the other hand, lecturers themselves redesign that content to let students interested in the lessons instead of neglecting them. Another action the faculty might intervene in is to directly communicate with students who have had negative attitudes during lecture time in recent days to detect the reasons why they have had those them. Our study aims to develop a software system based on computer vision to recognize students' behaviour in the classroom environment.

Ngoc Anh and others have conducted researches and say that the computer vision system uses cameras placed in a suitable location in the classroom as its data collector module; facial recognition and body-motion detection are applied to take attendance and behaviour analysis [10]. Haar cascade face detection, Eigenface, and Fisherface approaches were applied to detect faces. These approaches are used to train and recognize students' faces. For body detection, the cascade classifier and Histogram of Oriented Gradients (HOG) were used. There are four rules of body detection which are based on "face is detected," "upper body is detected," "full-body is detected." Furthermore, they lead to performances: sitting and concentrating in the classroom, sitting but not concentrating in the classroom, and standing and ready to leave the classroom. Some specialized digital devices, such as Kinect from Microsoft, have been employed to utilize the capabilities of collecting behavioural data of multiple students. The students' attentions were evaluated by five human observers, who noted types of behaviour from each student: writing, yawning, supporting head, leaning back, or gazing, and then found the attention level for each of the behaviour; each ones behaviour had a different range to evaluate the level of attention, and they were calculated by taking the mean of them. But there were some limitations: the ground truth data on attention, computed from human observer estimates, was not entirely reliable (need a better evaluation of attention level); the training data was not large enough, and the Kinect sometimes detected incorrectly and produced erroneous results. Besides, the seven features computed from low-level Kinect data were not comprehensive enough to be able to describe all observed behavioural differences of the test persons (e.g., cannot detect writing). Recently, a school in Hangzhou, China, is using facial recognition to monitor the behaviour of their students. The technology that classifies the students is generally based on their range of emotions—from antipathy to happiness (and a whole host of others). The system also cross-checks the faces of all students against the school database to mark the attendance and has the ability to predict if a student is feeling sick. Unfortunately, the results of most actions have not yet been published. However, this showed the possibility of using facial recognition technology to help and monitor [10].

Method

The current study was a mixed research both quantitative and qualitative aimed to investigate Iranian EFL leaners attitudes toward using camera to record teaching and learning process in the classrooms. The sampling method was the convenient sampling where the researcher had to find equipped institutes as all the institutes are not camera-equipped. The questionnaire was distributed among the learners and they were asked to complete it. After receiving them, they were asked to participate in a semi-structured interview in order to get their attitudes more precisely. Then the data were analysed qualitatively and quantitatively and were discussed and reported.

The participants of the present study consisted of 57 EFL students (27 male and 30 female) who volunteered to participate in this study and complete the questionnaires. The age range of the students is from 6 years to 48 years old. It is noteworthy to say that the researcher paid remuneration to the respondents. The participants were EFL learners learning English in an institute which was equipped with cameras.

The instrument which was used in the study to collect data was a researcher-developed questionnaire which was designed to collect data mostly about the participants' attitudes towards using recording devices in classes to see whether there exist differences between camera-equipped classrooms and those that are not camera-equipped. Since the questionnaire was designed by the researcher, it was necessary to make sure of its reliability and validity. For the being sure of reliability of the questionnaire, Alpha Cronbach Coefficient was run and also in order to be sure of content validity of the study, the responses of 10 participants were given to three highly experienced EFL teachers to be sure that the questionnaire was an appropriate and valid instrument to collect data. The construct validity was also examined by running KMO and Bartlett's test.

Results

Questionnaire results

In Table 1, the Cronbach's alpha coefficient value for the questionnaire is 0.728, signifying that the reliability value is regarded as "larger than typical effect size" based on Cohen's table of the effect size for social science (1988), which means these values represent a desirable level of reliability.

In Table 2, section three of the questionnaire has construct

validity since the p-value is less than 0.05 (sig. is 0.0 in KMO and Bartlett's Test). Also, the presented value in the KMO statistic "Kaiser Meyer-Olkin Measure of Sampling Adequacy" is 0.667. Since the value is above 0.5, it can be claimed that the items are adequate for Factor Analysis. Therefore, we can say the questionnaire measures what the researcher intended to measure.

The Table 3 illustrate a significant difference between the responses received by the participants of this study and whether or not the answers were all analogous to one another. As can be observed, Sig values are less than 0.05, representing the existence of a difference between the answers. So, it can be concluded that there is a significant difference among the students 'responses. Exploratory factor analysis was utilized to help find the significant factor loadings in favour of analysing participants' responses.

In Table 4, the results of EFA statistics for section three made it clear that Having CCTV cameras in classes makes teachers and students feel a little distrusted and a little anxious. On the other hand, the presence of a camera in the classroom has made the entry and exit of students and teachers well-ordered. Also, out of 57 students, 41 said they do not know if the headmaster has done such things before installing cameras in classrooms. 16 students claimed, before installing the cameras, the headmaster made researches and studies to some fair extent.

Table 1. Reliability statistics for the questionnaire.

Cronbach's Alpha	N of Items
0.728	13

Table 2. Validity statistics of the questionnaire.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.667
Bartlett's Test of Sphericity	Approx. Chi-Square	353.756
	df	78
	Sig.	0

Table 3. Chi-square Statistics for the questionnaire.

Interview Results

The answer of students to the interview revealed that students have observed the following subjects in those language institutes which have camera-equipped classrooms:

- Classes are being held in an orderly manner.

- The recordings are a valid source for providing evidence about an incident. This gives everyone peace of mind.

- Teachers stay on course and do not evade from teaching or practicing the English language.

- Students' and teachers' behaviour and speech are more formal and polite.

- The environment of the classes (such as walls, floor, and chairs) is much cleaner.

Table 4. EFA Statistics for the questionnaire.

	Components		
	1	**2**	**3**
Q4	0.854		
Q12	0.804		
Q5	0.777		
Q13	0.606		
Q11		0.855	
Q10		0.833	
Q7		-0.679	
Q1			0.73
Q2	0.558		0.65
Q9			0.637
Q8		-0.536	0.631
Q6			0.552
Q3			0.518
Extraction Method: Principal Component Analysis.			
Rotation Method: Oblimin with Kaiser Normalization.			
a. Rotation converged in 12 iterations.			

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Chi-Square	34.421[a]	53.070[b]	53.070[b]	2.123[b]	35.526[b]	25.035[c]	47.158[a]	67.053[a]	57.789[a]	20.947[a]	53.070[b]	91.368[a]
df	2	1	1	1	1	3	2	2	2	2	1	2
Asymp. Sig.	0	0	0	0.145	0	0	0	0	0	0	0	0
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 19.0.												
b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 28.5.												
c. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 14.3.												

	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23
Chi-Square	19.561[a]	7.053[b]	59.684[b]	3.947[c]	8.842[b]	29.491[c]	5.070[c]	19.105[c]	12.737[b]	49.281[c]	36.737[b]
df	3	2	2	1	2	1	1	1	2	1	2
Asymp. Sig.	0	0.029	0	0.047	0.012	0	0.024	0	0.002	0	0
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 14.3.											
b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 19.0.											
c. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 28.5.											

- Teachers and students mainly focus on practicing the English language rather than straying into irrelevant issues.

However, based on the responses of students, things are not like this way in non-camera-equipped classrooms.

Discussion and Implications

The results of EFA statistics for the questionnaire made it clear that having CCTV cameras in classes makes teachers and students feel a little distrusted and a little anxious. On the other hand, the presence of a camera in the classroom has made the entry and exit of students and teachers well-ordered. Also, out of 57 students, 41 said they do not know if the headmaster has done such things before installing cameras in classrooms. 16 students claimed, before installing the cameras, the Head master made researches and studies to some fair extent.

Based on the feedbacks of those students that have participated both in camera-equipped classrooms and non-camera-equipped classrooms, the differences between these classes are as follows:

- Classes are being held in an orderly manner.

- The recordings are a valid source for providing evidence about an incident. This gives everyone peace of mind.

- Teachers stay on course and do not evade from teaching or practicing the English language.

- Students' and teachers' behaviour and speech are more formal and polite.

- The environment of the classes (such as walls, floor, and chairs) is much cleaner.

- Teachers and students mainly focus on practicing the English language rather than straying into irrelevant issues.

Conclusion

The current study set out to investigate the feedbacks and perceptions of EFL students who participated both in camera-equipped classrooms and non-camera-equipped classrooms in Iran. Also, they provided the researcher some information about the differences between those classrooms that have is equipped with CCTVs and those that are not equipped. The results of this research can be useful to those institutes, schools, universities, and any educational enter that wish to equip their classrooms with CCTV cameras.

Recommendations for Future Studies

- Other researchers can conduct a research about this issue based on experimental studies.

- Researchers can collect headmasters' and parents' views and feedbacks.

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