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Study Of Opinions Related To The Use Of Bio-Enabled Attendance System For Improving Punctuality Among Teachers

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The study aims to assess the extent of use and adequacy of using the bio-enabled attendance system in educational institutions to develop punctuality among teachers. A fingerprint-based attendance monitoring system was used for this purpose. The sample comprises 70 teachers from an institution where a bio-enabled attendance machine was being used. The investigators collected teachers' opinions towards using a bio-enabled attendance system for improving their punctuality with the help of a self-prepared questionnaire. The findings reveal that there is a significant difference in the teachers' opinions towards the use of a bio-enabled attendance system with regards to their residential background and medium of teaching. There is no significant difference in the opinion of the teachers towards the use of a bio-enabled attendance system concerning their gender, computer training and teaching subjects. The results also show that the bio-enabled attendance system contributes towards improving the punctuality of teachers as it is effective, accurate, time-saving and checks the proxy system for marking the attendance.

KEYWORDS: BioEnabled Attendance System, Punctuality, Teachers Opinion

Introduction

Teachers are known to be the nation builders and are considered the backbone of the society. The character and the personality of a teacher greatly influ-

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ences the students whom they teach. The habit of punctuality is required to be formed at a very young age. What will happen if the teachers themselves arrive late for their duties in the school? Some are late for genuine reasons but few others are habitually late corners. When asked the reasons for being late, they come up with the excuses like that they didn't get the bus in time or they have to take their child to the doctor or they could not get up early in the morning and so on. Is there a way to make them realize as to how important it is to be punctual and how it is going to influence the lives of their students?

Benjamin Franklin, once said to an employee who was always late, but always ready with an excuse: "I have generally found that the man who is good at an excuse is good for nothing else."

Punctuality is the characteristic of being able to complete a required task or fulfil an obligation before or at a previously designated time. Punctuality is the secret of success in life. Renowned and successful men in the world are known to be punctual. They knew the value of time and utilized it in the proper way in their life. Time, like tide, waits for none, nor can it be kept in store for future use. Therefore, in order to live a meaningful life, one must make the best use of time; and the only way to make the best use of it is to be punctual (Jonasson, 2011).

Punctuality is considered to be the noblest virtues and it is needed not only on the part of the student, but the teacher as well. Sometimes, we find a student more punctual than a teacher. So, Punctuality depends upon the behavioural commitment. Improving punctuality is a key element in the drive to bring coherence and continuity to teaching and learning. In past, teachers used to mark their attendance on physical registers. Now technology has provided us a solution in the form of bio-enabled attendance system (Kirmani, 2017). Bio-enabled attendance system can be used to improve the punctuality among teachers. Bio-enabled attendance system helps us to maintain order and discipline, saves time, organize oneself better and be an excellent role model (Sriram, 2019). Being punctual shows your humility and respect for others. Bio-enabled attendance system is typically a fingerprint scan or thumb print scan, however, iris scanning systems are also in use. In the present study, a fingerprint scanning system was used by the teachers for marking their attendance in the institution.

Review Of Related Literature

Gordon (2005) conducted a study on improving attendance and punctuality of FE Basic skill students through an innovative scheme. Based on the findings, the study concluded that the scheme has a significant impact on some aspects of the learners' performance and advocates the introduction of novel ways, in

the context of mixed approaches towards eradicating undesirable behaviours among young learners.

Chughati and Zafar (2006) conducted a study on antecedents and consequences of organizational commitment among Pakistani University teachers. The results of the study indicated that the personal characteristics, facets of job satisfaction and two dimensions of organizational justice as a group were significantly related to organizational commitment of teachers. Individually, distributive justice and trust in management were found to be the strongest correlates of commitment. Moreover, commitment was found to be negatively related to turnover intentions (-0.40) and positively related to a self-report measure of job performance (0.32).

Lishchinsk (2007) conducted a study on Israeli teachers' perceptions oflateness based on their gender. Results based on multi-level analysis, showed that, for women, organizational commitment partially mediated the relation between perceived distributive justice and lateness. No such effect was found for men. The findings have been explained in terms of women using lateness behaviour to establish a balance between their amount of effort and the measure of their perceived reward.

Jonasson (2011) conducted a study on improving attendance and punctuality. The objectives of this study were to report on the characteristics of the most effective approaches to collect and use attendance data from a sample of colleges in order to evaluate how effectively colleges were using their attendance data. Findings suggested that student absence consists of interrelated forms of absence behaviour that have specific consequences for student performance. It is helpful to describe these findings using theoretical frameworks from sociology and psychology, specifically, spill-over theory and symbolic capital theory.

Selvil, Chitrakala, and Jenitha (2014) conducted a study on face recognition-based attendance marking system. The results showed improved performance over manual attendance management system. Attendance was marked after employee identification. This product gave more accurate results in user interactive manner rather than existing attendance and leave management systems.

Zin, Isa, and Isa (2014) conducted a study on portable fingerprint-based attendance recording and monitoring system. This study presented the development of a portable attendance monitoring system based on fingerprint identification that can be used by lecturers to monitor attendance of students. This study has mentioned that fingerprint-based identification is one of the oldest method among all biometric or security techniques which has been successfully used in numerous applications. This system could be used by lecturers

to replace the old method of attendance recording, so that the integrity of the attendance record can be upheld. The actual student's attendance could be recorded and stored in a database. The system was also capable of processing the record to determine students who do not fulfil the attendance percentage requirement.

Kirmani (2017) in his research work aimed to study the impact of biometric attendance system (BAS) on educational system vis-a-vis punctuality of employees in an educational institute. The study indicated that biometric modalities are universally secure and accurate, but in practice the scenarios of attendance systems in Jammu and Kashmir has highlighted some loopholes which are existing at present in the biometric attendance system.

Namiti and Ondiek (2020) in their study revealed that traditional ways which the schools used in managing teacher's absenteeism included attendance register, visits by the principal and the class prefects' records in checking the teachers' attendance. The challenges faced in the use of the traditional methods include teachers signing for others, ineffective policies and the loss of books. Also, there is lack of motivation from students. The study revealed that traditional methods had many challenges in checking of teachers' attendance and therefore this negatively influences the teacher's performance. The study revealed that biometric system had a lot of benefits that schools can realize if they adopt it in managing teachers' absenteeism and for improvement of teachers' performance. The benefits of using a biometric system were security of attendance tracking, its flexibility and convenience and time saving. Also, the study revealed that biometric had the benefit of being easily integrated with other systems.

Need And Significance Of The Study

The role of a teacher in classroom is very significant and it must be executed with excellence. Many observations and issues related to attendance led the investigators to contemplate the virtue of punctuality on the part of the teacher. The investigators have personally observed the advantages of coming to class early in which bio-enabled attendance system is very helpful. It helps to maintain order and discipline; it builds the self confidence among teachers and saves time. The timekeeping is also an important aspect for many organizations. The present study may be helpful to every stakeholder to get an insight that would further be useful in deciding on some issues pertaining to attendance inside the institutions.

Objectives Of The Study

The objectives of the study are:

1. To find the opinions of teachers towards application of bio-enabled attendance system.
2. To find differences in opinions of the male and female teachers towards the use of bio-enabled attendance system.
3. To find differences in opinions of the teachers towards the use of bio-enabled attendance system for the improvement of punctuality among them with respect to their residential background, their computer training, medium of teaching and teaching subjects.

Hypotheses Of The Study

The hypotheses of the study are:

1. There is positive opinion of the teachers about bio-enabled attendance system.
2. There is no significant difference in the opinion of the male and female teachers towards the use of bio-enabled attendance system.
3. There is a significant difference in the opinion of the teachers towards the use of bio-enabled attendance system with respect to their:

- Residential background
- Computer training,
- Medium of teaching and
- Teaching subjects.

Sample For The Study

Purposive Sampling technique was used to collect data. 70 teachers were taken from an educational institution where bio-enabled attendance system had been installed and being used in an appropriate manner. A survey-based methodology was used to collect the data for the present study.

Tools Employed

A self-prepared questionnaire comprising 45 statements scored on a five-point rating scale was utilized for collection of data. These options were: strongly agree, agree, not sure, disagree, and strongly disagree having a score of 5, 4, 3, 2 and 1 respectively.

Findings Of The Study

Research Objective 1

To Find the Opinions of Teachers towards Bio-Enabled Attendance System

To achieve this objective the overall trends of the responses made by teachers on Bio-enabled attendance system, mean scores on each item were computed and have been presented in Figure 1.

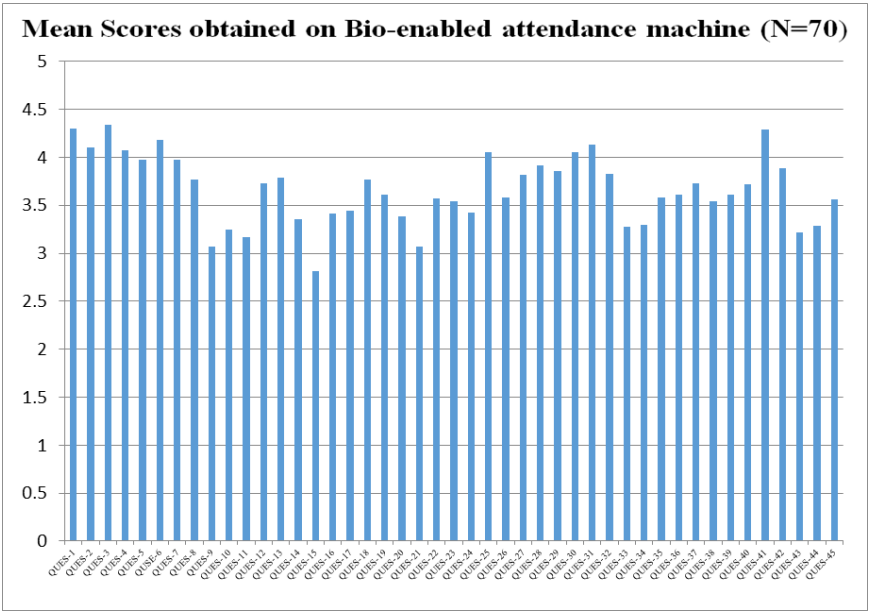

Figure 1. Graphical Representation of the Mean Scores Obtained on 45 Items of the Questionnaire.

The results shown in Figure 1 depict that the favourable opinion of teachers about the bio-enabled attendance system had the highest mean score. Most

of the favourable statements had mean scores of more than 3 on a five-point scale. On the other hand, the unfavourable type of statements had the lowest mean score. Also, total mean score on opinions were found to be more than the average value (>150 for 45 items scored on a five-point scale) hence, it can be concluded that there is a positive opinion of the teachers about the bio-enabled attendance system. Analysis of the statements revealed that bio-enabled attendance system contributes to the improvement of the punctuality as teachers have opined that bio-enabled attendance system helps improve the punctuality, it is effective, accurate, time saving and checks for the proxy system for marking attendance etc. Therefore, Hypothesis 1 stating that 'there is positive opinion of the teachers about bio-enabled attendance system' stands partially accepted.

Research Objective 2

To Find Differences in the Opinions of the Male and Female Teachers towards the Use of Bio-Enabled Attendance System

Mean, standard deviation and t-value for opinions of male and female teachers about bio-enabled attendance system were computed and results have been shown in Table 1.

Table 1

Gender Differences Among Teachers on Opinion About Bio-Enabled Attendance System.

Gender	N	Mean	SD	*t*
Male	4	170.00	37.02	
Female	66	164.67	19.70	0.50

Results in Table 1 show that the mean score of male teachers on bio-enabled attendance system is 170.00 and the mean score of female teachers is 164.67. The value of 't' is 0.50, which is not significant. Hence, male and female teachers do not significantly differ in their opinion about bio-enabled attendance system. Therefore, Hypothesis 2 stating that 'there is no significant difference in the opinion of the male and female teachers towards the use of bio-enabled attendance system stands accepted.

Research Objective 3

To Find Differences in the Opinions of the Teachers Towards the Use of Bio-Enabled Attendance System with Respect to their a) Residential Background, b) Computer Training, c) Medium of Teaching and d) Teaching Subjects.

Mean, standard deviation and t-value for opinions of teachers about bio-enabled attendance system on basis of their a) Residential Background, b) Computer Training, c) Medium of Teaching and d) Teaching Subjects were computed and results have been shown in Table 2 and Table 3 respectively.

Table 2

Differences in the Opinions of the Teachers Towards the Use of Bio-Enabled Attendance System with Respect to their a) Residential Background, b) Computer Training, and c) Medium of Teaching.

Variables	Groups	N	Mean	SD	*t*
Residential Background	Rural	20	156.35	20.16	2.27*
	Urban	50	168.42	20.02	
Computer Training	Received	62	164.04	21.01	1.04
	Not Received	8	172.12	17.08	
Medium	English	37	169.51	17.63	1.96*
	Hindi	33	159.87	22.79	

* Significant at 0.05 level

Residential Background

For the fulfilment of the objective mean scores of rural and urban teachers' opinions about bio-enabled attendance system scale was computed as shown in Table 2 and it was found that the mean score of rural teachers is 156.35 and the mean score of urban teachers is 168.42. The value of 't' is 2.27, which is found to be significant at 0.05 level of significance. Hence, rural and urban teachers significantly differ in their opinions about bio-enabled attendance system as urban teachers have got higher mean score as compared to their counterparts. Therefore, Hypothesis 3a stating that 'there is a significant difference in the opinion of the teachers towards the use of bio-enabled attendance system with respect to their residential background' stands accepted. Thus, it can be concluded that the scores obtained by urban teachers have been found to be significantly higher than that of the rural teachers.

Computer Training

As shown in Table 2, the mean value on opinions of teachers who received computer training is 164.04 and the mean value of teachers who did not receive any computer training is 172.12. The value of 't' is 1.04, which is not significant. Hence, teachers who had received computer training do not differ in their opinion about bio-enabled attendance system in comparison to those who had received computer training. Therefore, Hypothesis 3b stating that 'there is a significant difference in the opinion of the teachers towards the use of bio-enabled attendance system with respect to their computer training stands rejected.

Medium of Teaching

Results as shown in Table 2 depicts that the mean score of the opinions of teachers teaching through English medium is 169.51 and the mean score of teachers teaching through Hindi medium is 159.87. The value of 't' is 1.96, which is significant at 0.05 level of significance. Therefore, teachers differ significantly on the basis of their medium of teaching in their opinion about bio-enabled attendance system as English teachers have got higher mean scores as compared to their counterparts. Therefore, Hypothesis 3c stating that 'there is a significant difference in the opinion of the teachers towards the use of bio-enabled attendance system with respect to the medium of their teaching' stands accepted. Thus, it can be concluded that scores obtained on opinions of the teachers towards the use of bio-enabled attendance system of teachers teaching through English medium have been found to be significantly higher than that of teacher teaching through Hindi medium.

Teaching Subjects

Scores obtained on opinions of teachers about bio-enabled attendance system on basis of their mainstream teaching subjects (Science, Arts and Commerce) were computed by employing one way Analysis of Variance technique and results from the computations have been shown in Table 3.

The calculated value of F ratio was found to be 1.34 which is less than the table value of F (2.52, df 69), hence, there is no significant difference in the opinions of the teachers towards the use of bio-enabled attendance system with respect to their mainstream teaching subjects. Thus, mean scores obtained on opinion do not differ significantly. Therefore, Hypothesis 3d stating that 'there is a significant difference in the opinions of the teachers towards the use of bio-enabled attendance system with respect to their teaching subjects' stands rejected.

Table 3

Summary of ANOVA for Opinions of the Teachers towards the Use of Bio-Enabled Attendance System w.r.t. Mainstream Teaching Subjects.

Source of Variance	Sum of Squares	df	Mean Square	F
Between groups	1133.27	2	566.63	
Within Groups	28306.68	67	422.49	1.34
Total	29439.94	69		

Discussions And Conclusions

On the basis of the interpretation of the results drawn in the present study, the investigator lays down the following conclusions:

1. The present study revealed that there was a positive opinion of teachers about the bio-enabled attendance system. Analysis of the statements revealed that bio-enabled attendance system contributes to the improvement of the punctuality as teachers have opined that the system helps improve the punctuality, it is effective, accurate, time saving and checks for the proxy system for marking attendance.

2. No gender differences were found to exist in opinions of teachers about bio-enabled attendance system so it can be said that both male and female teachers have equal favourable or unfavourable opinions towards bio-enabled attendance system.

3. The present study revealed that, scores obtained by rural teachers have been found to be higher than that of the urban teachers, and significant differences have been found to exist on the basis of their residential background so it can be concluded that urban teachers have more positive opinion in comparison to rural teachers. It may be due to the fact that urban teachers have frequent exposure to latest technological developments as compared to their counterparts.

4. The present study revealed that, teachers who received computer training and teachers who did not receive computer training do not significantly differ in their opinions about bio-enabled attendance system. Hence, it can be said that both types of teachers had equal positive opinions towards bio-enable attendance system.

5. The study revealed that, scores obtained by teachers teaching through English medium have been found to be higher than that of teachers teaching through Hindi medium, and a significant difference has been found to exist on the basis of their medium of teaching. Hence, it can be concluded that

English medium teachers have more positive opinion in comparison to Hindi medium teachers. It may be due to the fact that English medium teachers can easily understand the instructions and device operations as compared to their counterparts.

6. The study also revealed that there is no significant difference in the opinion of teachers about bio-enabled attendance system with respect to their teaching subjects. It can be concluded that teaching subject does not contribute towards the difference in opinions about bio-enabled attendance system to improve the punctuality.

EDUCATIONAL IMPLICATIONS OF THE STUDY

Education is important for the social and economic development of the country. This is the age of information dominated by the digital technology. Digital technology influences all the aspects of human life and education is not an exception (Wikramanayake, 2005). In the light of the findings of the present study, the following educational implications can be offered for the usage of bio-enabled attendance system.

1. Proper development of bio-enabled attendance system is essential for developing punctuality and enables the teachers to perform well in regular work.
2. Bio-enabled attendance system helps a teacher to discharge one's duties effectively.
3. These systems should be implemented in educational institutions located in rural areas as well.
4. The managements of various educational institutions should implement the bio-enabled attendance system so that teachers are punctual and regular.

In nutshell, the result from this study may help the teachers develop a more positive and productive interactive relationship with the bio-enabled attendance system. There should not be any doubt that bio-enabled attendance system helps a teacher to discharge his/her duties effectively.

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