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**PERCEPTION OF STAKEHOLDERS REGARDING DIGITAL AND
TRADITIONAL TEACHING**

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ABSTRACT

The integration of ICT in constructivist classroom seems to be a right step as technology influences the quality of teaching in a great extent. Here in crucial juncture, Biggs (1999) contrasted between two teaching strategies, one on what teacher does and the other, on what the student does and came to the conclusion that the later to be more effective. Hence, new learning and teaching strategies may have to be introduced to prepare students to become independent learners. Through the use of ICT, teachers can provide opportunities for the students to learn think critically and discuss among their peers. The phrase “sage on stage” may change to “guide on the side” as educators take a step back from the normal role of being information giver to one that guide the teaching - learning process. In this paper, researcher wanted to find out the perceptions of stakeholders regarding digital and traditional teaching. Descriptive Survey method was used for this study and the data were analysed both in quantitatively and qualitatively. Researcher has taken 250 samples (100 teachers & 150 students). All teachers and students are taken from different Govt. Aided Degree Colleges under Vidyasagar University, Midnapore, West Bengal. One common questionnaire for teachers and students was constructed and used by the researchers. This questionnaire was consisted of 40 items, 28 items were formed in three-point scale like Agree, Undecided and Disagree and other 12 were formed in two-point scale like Yes or No. Researcher analysed and interpreted the data through ‘t’- test and graphical representation. And finally, she found the conclusion through which it was stated that the digital teaching is more effective than the traditional teaching.

KEYWORDS: *Digital Teaching, Traditional Teaching, Constructivism, ICT, Collaborative Learning.*

I. INTRODUCTION:

The sole aim of education is to enable the student converting educational principles into action-oriented approach for the betterment of their own life. This can be achieved by having

the child, learn to think, communicate and enact. So, classroom teaching practice becomes more effective, when it is well informed by an understanding of how students learn. It is therefore, essential that the major implication of learning theory should be reflected in classroom practice in a more child-focused manner and learning will be more successful if students are given the opportunity to explain or clarify ideas. So, construction of knowledge rather acquisition of information is the basic of a process of teaching and learning, known as constructivism.

CONSTRUCTIVISM:

Constructivism is an epistemology, learning or meaning-making theory that offers an explanation of the nature of knowledge and how human begins learn. It maintains that individuals create or construct their own new understandings or knowledge through the interaction of what they already know and believe and the ideas, events and activities with which they have contact. Such knowledge often takes the forms of skilled which are cultivated outside the school, at home or in the community. All such forms of knowledge and skills must be respected. A sensitive and informed teacher is aware of this and is able to engage children through well-chosen tasks and questions, so that they are able to realize their developmental potential. The idea of constructivism has been drawn upon the developmental work of Piaget (1977).

CONSTRUCTIVIST APPROACH:

National Curriculum Framework (2005) has introduced a concept under the title ‘Construction of Knowledge’. Constructivist approach may be a good alternative to the traditional methods, the success of which has been reported positively by the researchers throughout the world. The constructivists suggested a good number of approaches for learning i.e., collaborative learning, co-operative learning, peer tutoring, problem solving learning etc. Among them collaborative learning suggests a good practice for teaching and learning.

COLLABORATIVE LEARNING:

“Collaborative learning” is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students’ exploration or application of the course material, not simply the teacher’s presentation or explication of it. Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students’ discussion and active work with the course material.

One way to implement high levels of interaction among students, and thereby to increase both the quality of students' learning experiences and the efficiency of delivery, is to implement collaborative learning. Much previous work on collaborative learning has focused on face-to-face situations, while in this study; the focus is on collaboration in an online learning environment. Online interactions differ in quite important ways from face-to-face discussion. Online interactions lack the non-verbal cues that are a component of face-to-face contact, and this may reduce the extent of the communication that occurs.

DIGITAL LEARNING:

Digital learning is replacing traditional educational methods more and more each day. With how rapidly classrooms are changing, it is best to forget methods you may remember from when you were in school and start thinking about newer teaching and learning techniques

based on digital learning tools and technologies. The inclusion of digital learning in the classrooms can vary from simply using tablets instead of paper to using elaborate software programs and equipment as opposed to the simple pen.

This could entail using sites, services, programs, teaching tools, and technologies like study aids built for at-home use. Even social networks and communications platforms can be used to create and manage digital assignments and agendas. Irrespective of how much technology is integrated into the classroom, digital learning has come to play a crucial role in education. It empowers students by getting them to be more interested in learning and expanding their horizons.

II. REVIEW OF LITERATURE:

Researchers have reviewed the following literature-

Chien, Lee and Kao (2008) investigated collaborative teaching in an English-for-specific-purposes (ESP) class in Taiwan and reported that the experimental group had a more positive attitude and much more motivation towards English learning by the end of the academic year.

Cynthia and Yasmin (2008) concluded from their study that collaborative learning gives much scope to the students to share their experiences in group works in order to enhance their learning.

Wang (2007) suggested that although advantages of student interaction and collaborative learning online have long been recognized, there still remains to be identified what are the instructional design of course tasks and activities that promote consistent student interaction and collaboration for knowledge construction.

Liu, Magjuka, Bonk & Lee (2006) stated that it is important to examine the perceptions of online students and instructors on whether it matters to build learning community in online courses, as well as the effective ways to build a sense of community.

Gray (2005) conducted his study on “The Road to Knowledge is always Under Construction”. This Study gives the idea of using constructive theory in the classroom. He applied the theory at elementary and secondary level. In a class of standard 10, students were arranged in groups. They were involved in a group translation into contemporary English of Julius Caesar, each of five groups translating a different act. They presented their interpretation through verbal and non-verbal representations. Throughout the process, the students in the groups negotiated interpretations of Shakespearean discourse and debated how particular characters might say their new constructions.

Olsen (1999) argues that common perspective of constructivism is the students’ construction of knowledge which is basically a learning process that involves change. Since the construction is the process of learning, teachers have a big role like - to influence, or create motivating conditions for students, take responsibility for creating problem situations, foster acquisition and retrieval of prior knowledge, and create the process of learning not the product of learning.

Johnson & Johnson (1996) provide a sound theoretical basis for collaborative learning arguing that it has been described in terms of cognitive developmental theories, especially from a Vygotskian perspective; from behavioral learning approaches; and on the basis of social interdependence theory. Collaboration in a seminar does allow for scaffolding of thinking for student and provides immediacy of feedback. The behaviors that characterize positive social interdependence include giving and receiving help, exchanging resources and information, giving and receiving feedback, challenging and encouraging each other, and jointly reflecting on progress and process. Johnson and Johnson (1996) also note that the

effect sizes, for the dependent variables just listed, favor collaborative approaches even more when the task is more complex and involves greater problem-solving and creativity.

Dillenbourg and Schneider (1995) make a distinction between cooperative and collaborative learning. They indicate that cooperative learning is "... a protocol in which the task is in advance split into subtasks that the partners solve independently". Collaborative learning describes situations "... in which two or more subjects build synchronously and interactively a joint solution to some problem". This distinction places greater emphasis on the extent and quality of the exchanges that occur within groups of students in collaborative environments. With cooperative tasks, participants could agree on the elements of the task and distribute those across group members who would work independently until each has completed her/his component.

In reciprocal teaching (Brown & Palincsar, 1989) interactions among students have been shown to exert positive influences on students' learning. Reciprocal teaching is a form of collaboration and there is evidence that in the discourse in which learners articulate and share their understandings, there is potential for sharing the cognitive load of the learning task for greater on-task engagement, and for greater mutual explanations.

III. OBJECTIVES OF THE STUDY:

Considering the above related studies, the researcher has selected the following objectives-

- To find out the perception of stakeholders towards digital learning.
- To find out the difference between traditional teaching (physical classroom) and digital teaching.
- To find out the possibilities of incorporating the collaborative learning in digital learning.

IV. RESEARCH QUESTIONS:

According to research objectives, the researcher has formed the following research questions-

- What is the perception of stakeholders towards digital learning?
- What is the difference between traditional teaching and digital teaching?
- Are there any possibilities of incorporating the collaborative learning in digital learning?

V. HYPOTHESES:

Researcher has framed the following hypotheses for the present study-

- H_{01} : There exists no significant difference in the mean scores of perceptions towards digital teaching between Teachers and Students.
- H_{02} : There exists no significant difference in the mean scores of perceptions towards digital teaching between Male Teachers and Female Teachers.
- H_{03} : There exists no significant difference in the mean scores of perceptions towards digital teaching between Male Students and Female Students.
- H_{04} : There exists no significant difference in the mean scores of perceptions towards digital teaching between Male Teachers and Male Students.
- H_{05} : There exists no significant difference in the mean scores of perceptions towards digital teaching between Female Teachers and Female Students.

VI. METHODOLOGY:

The researcher has considered Descriptive Survey approach for this study. Researcher has done this study in the following manner:

- At first, broad research topic was considered by the researchers.
- Then, researcher reviewed the related literature from authentic sources.
- Objectives and research questions were framed.
- After that, researcher constructed one questionnaire consist of two parts, Part – A is for measuring the perceptions of teachers and students towards digital learning and Part - B is for findings the difference between traditional teaching and digital teaching.
- Then, researcher applied questionnaires on the selected sample for data collection.
- Researcher analyzed the data both in quantitative way through t-test and qualitative way through graphical representation.
- Lastly researcher found research outcomes or findings.

VARIABLE:

There are two variables in this study. One is the teachers' views towards the perception regarding digital and traditional teaching, and second one is the students' views towards the perception regarding digital and traditional teaching.

SAMPLE:

Researcher has selected 100 teachers and 150 students from different Govt. Aided Degree Colleges under Vidyasagar University, Midnapore, West Bengal. The U.G. students (Education Hons., Semester – VI) were considered for the study. All the samples are taken from different colleges of Midnapore of West Bengal.

TOOLS:

Researcher has constructed one common questionnaire for measuring the perceptions of teachers and students towards digital and traditional teaching and for findings the difference between the two. This questionnaire is consisted of 40 items, 28 items is formed in three-point scale like Agree, Undecided and Disagree and other 12 is formed in two-point scale like Yes or No.

VII. DATA ANALYSIS AND INTERPRETATION:

After collecting data, researcher used different descriptive and inferential statistics for analysis and interpretation of data. Researcher analyzed the data both in quantitative way through t-test and qualitative way through graphical representation.

DATA ANALYSIS THROUGH 't' – TEST

TABLE-1: 'T' – TEST: PERCEPTION TOWARDS DIGITAL TEACHING BETWEEN TEACHERS & STUDENTS:

Group	N	Mean	SD	Mean Difference	df	t- value
Teachers	100	52.90	2.35	2.67	248	6.78**
Students	150	50.23	3.44			

****Significant at 0.01 level**

In the above table, the calculated 't' value was found to be significant, therefore, the corresponding null hypothesis (H_{01}) was rejected. As such, it could be inferred that there existed significant difference in the mean scores of perceptions towards digital teaching between Teachers & Students.

TABLE-2: 'T' – TEST: PERCEPTION TOWARDS DIGITAL TEACHING BETWEEN MALE TEACHERS & FEMALE TEACHERS:

Group	N	Mean	SD	Mean	df	t- value
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				Difference		
Male Teachers	55	52.50	2.33	0.85	98	1.82*
Female Teachers	45	53.35	2.32			

***Not Significant at 0.01 level**

In the above table, the calculated 't' value was found to be not significant, therefore, the corresponding null hypothesis (Ho₂) was accepted. As such, it could be inferred that there existed no significant difference in the mean scores of perceptions towards digital teaching between Male Teachers & Female Teachers.

TABLE-3: 'T' – TEST: PERCEPTION TOWARDS DIGITAL TEACHING BETWEEN MALE STUDENTS & FEMALE STUDENTS:

Group	N	Mean	SD	Mean Difference	df	t- value
Male Students	56	49.90	3.90	0.54	148	0.94*
Female Students	94	50.44	3.08			

***Not Significant at 0.01 level**

In the above table, the calculated 't' value was found to be not significant, therefore, the corresponding null hypothesis (Ho₃) was accepted. As such, it could be inferred that there existed no significant difference in the mean scores of perceptions towards digital teaching between Male Students & Female Students.

TABLE-4: 'T' – TEST: PERCEPTION TOWARDS DIGITAL TEACHING BETWEEN MALE TEACHERS & MALE STUDENTS:

Group	N	Mean	SD	Mean Difference	df	t- value
Male Teachers	55	52.50	2.33	2.60	109	4.25**
Male Students	56	49.90	3.90			

****Significant at 0.01 level**

In the above table, the calculated 't' value was found to be significant, therefore, the corresponding null hypothesis (Ho₄) was rejected. As such, it could be inferred that there existed significant difference in the mean scores of perceptions towards digital teaching between Male Teachers & Male Students.

TABLE-5: 'T' – TEST: PERCEPTION TOWARDS DIGITAL TEACHING BETWEEN FEMALE TEACHERS & FEMALE STUDENTS:

Group	N	Mean	SD	Mean Difference	df	t- value
Female Teachers	45	53.35	2.32	2.91	137	5.62**
Female Students	94	50.44	3.08			

****Significant at 0.01 level**

In the above table, the calculated 't' value was found to be significant, therefore, the corresponding null hypothesis (Ho₅) was rejected. As such, it could be inferred that there existed significant difference in the mean scores of perceptions towards digital teaching between Female Teachers & Female Students.

FINDINGS:

- There is the significant difference in the mean scores of perceptions regarding digital teaching between Teachers and Students, where in; the comparatively higher mean obtained by the Teachers than the students with respect to the level of perception.
- There is no significant difference in the mean scores of perceptions regarding digital teaching between Male Teachers and Female Teachers, where in; the comparatively

higher mean obtained by the Female Teachers than the Male Teachers with respect to the level of perception.

- There is no significant difference in the mean scores of perceptions regarding digital teaching between Male Students and Female Students, where in; Female Students possess significantly higher level of perception of the issues concerned than Male Students.
- There is significant difference in the mean scores of perceptions regarding digital teaching between Male Teachers and Male Students, where in; the comparatively higher mean obtained by the Male Teachers than the Male Students with respect to the level of perception.
- There is significant difference in the mean scores of perceptions regarding digital teaching between Female Teachers and Female Students, where in; the comparatively higher mean obtained by the Female Teachers than the Female Students with respect to the level of perception.

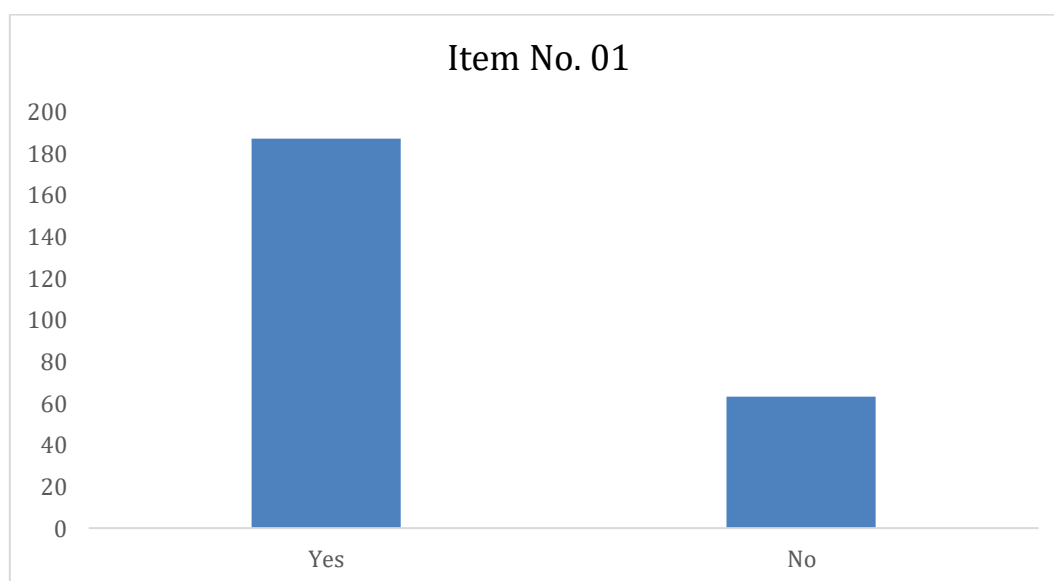
DATA ANALYSIS THROUGH GRAPHICAL REPRESENTATION

4.1. Frequency Wise Analysis of Item No. 01.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.1.

TABLE-4.1

Item No.	Item	Yes	%	No	%
01.	Will there not be opportunities for one-on-one attention to digital learners?	187	74.80	63	25.20



Graph 4.1. Graphical Representation of Item No. 1

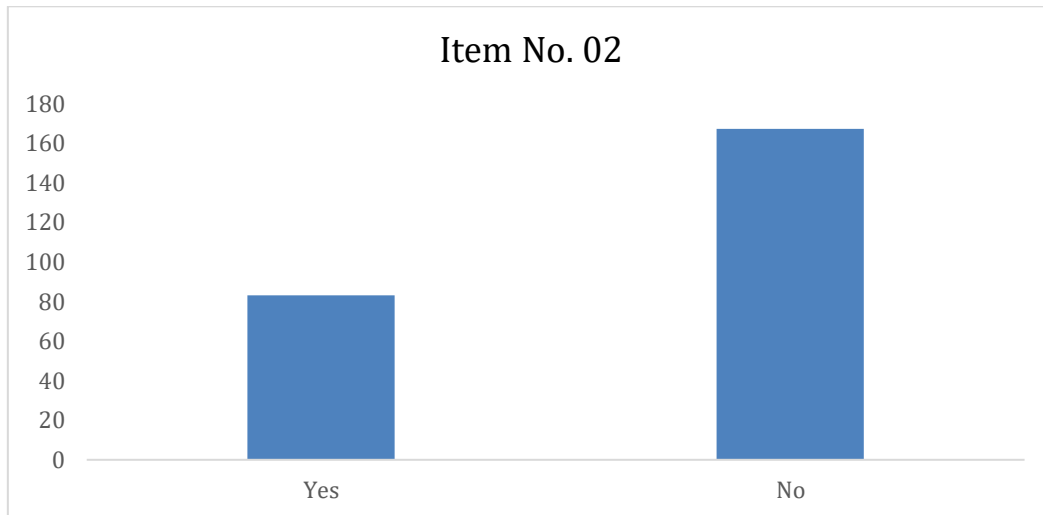
From the above information, it can be concluded that most of the responded i.e., 74.80% stated that in digital teaching there are no opportunities for one-on-one attention and 25.20% stated that there are the opportunities for one-on-one attention in digital teaching. Hence, the majority of the stakeholders' response indicates that the traditional teaching is more suitable in one-on-one attention and digital teaching is impossible in this situation.

4.2. Frequency Wise Analysis of Item No. 02.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.2.

TABLE-4.2

Item No.	Item	Yes	%	No	%
02.	Will they be streaming a teacher only in a classroom interacting with students?	83	33.20	167	66.80



Graph 4.2. Graphical Representation of Item No. 2

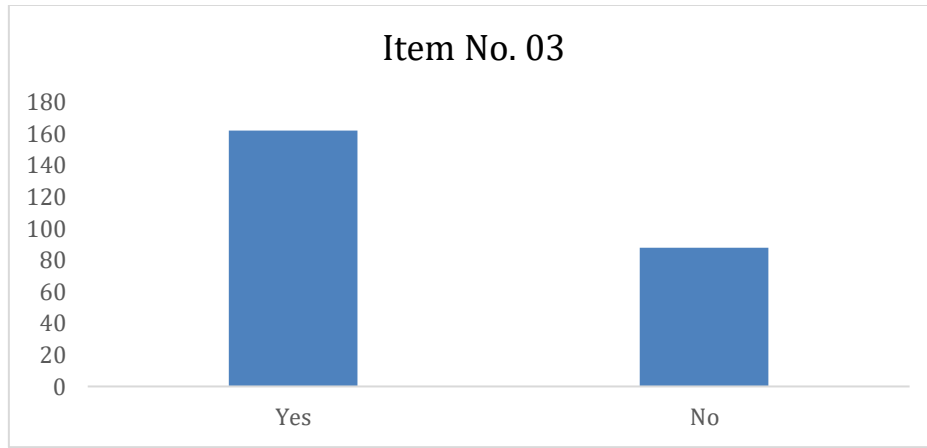
From the above data, it can be concluded that most of the stakeholders' i.e., 66.80% stated that the learners are not streaming a teacher only in classroom interaction session and 33.20% stated that the learners are streaming a teacher only in classroom interaction session. Hence, the majority of the samples' response indicates that digital teaching is more effective in this situation than the traditional teaching.

4.3. Frequency Wise Analysis of Item No. 03.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.3.

TABLE-4.3

Item No.	Item	Yes	%	No	%
03.	Will teachers be available outside of regular college hours?	162	64.80	88	35.20



Graph 4.3. Graphical Representation of Item No. 3

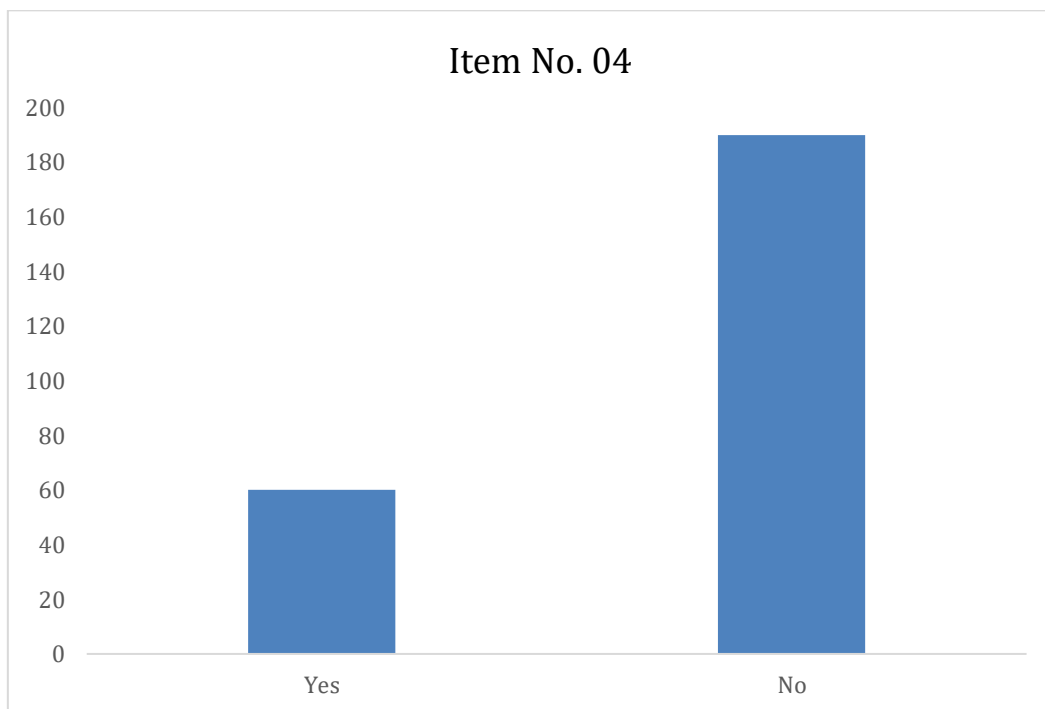
From the above information, it can be concluded that most of the responded i.e., 64.80% stated that the teachers are available outside the regular college hours and 35.20% stated that the teachers are not available outside the regular college hours. Hence, the majority of the stakeholders’ response indicates that in digital teaching the teachers are almost always available outside their college hours.

4.4. Frequency Wise Analysis of Item No. 04.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.4.

TABLE-4.4

Item No.	Item	Yes	%	No	%
04.	Will there be consistent expectations of what digital teaching looks like?	60	24.00	190	76.00



Graph 4.4. Graphical Representation of Item No. 4

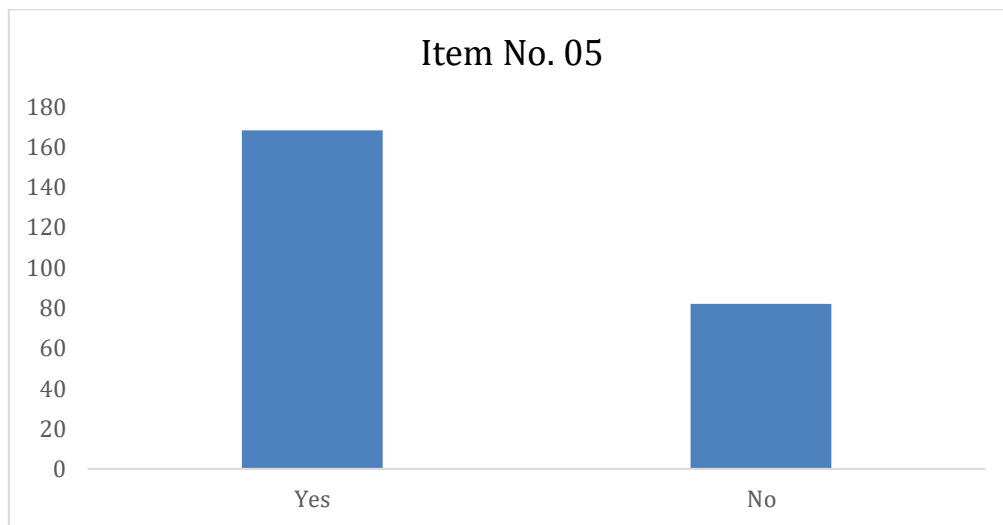
From the above data, it can be concluded that most of the sample i.e., 76.00% stated that there are no consistent expectations in digital teaching and 24.00% stated that there are the consistent expectations in digital teaching. Hence, the majority of the samples' response indicates that in digital teaching there are some flexible expectations which is merely possible in traditional teaching.

4.5. Frequency Wise Analysis of Item No. 05.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.5.

TABLE-4.5.

Item No.	Item	Yes	%	No	%
05.	Will teachers provide any additional training and support in digital teaching?	168	67.20	82	32.80



Graph 4.5. Graphical Representation of Item No. 5

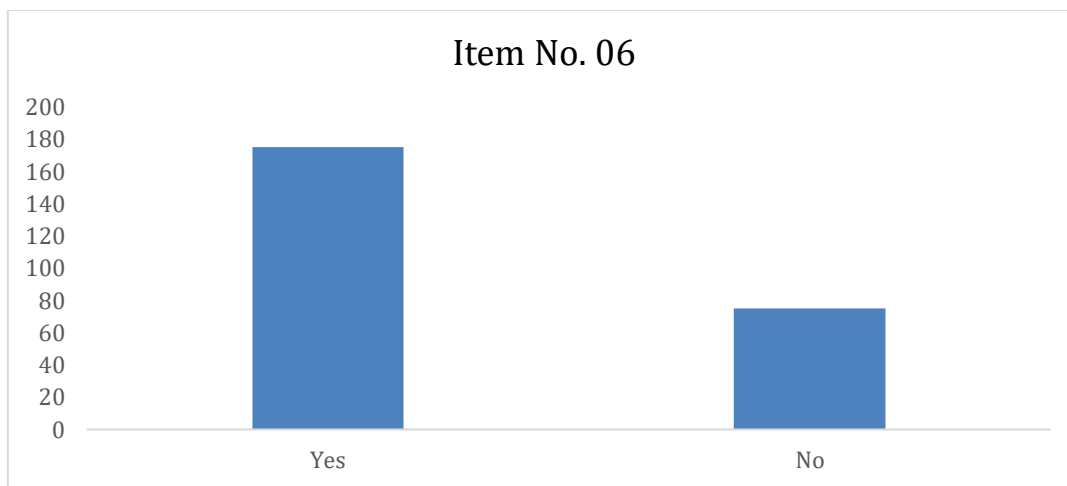
From the above information, it can be concluded that most of the responded i.e., 67.20% stated that in digital teaching the teachers provide any types of additional training and support and 32.80% stated in digital teaching the teachers do not provide any additional training and support. Hence, the majority of the stakeholders' response indicates that in this situation digital teaching is more effective than the traditional teaching.

4.6. Frequency Wise Analysis of Item No. 06.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.6.

TABLE-4.6

Item No.	Item	Yes	%	No	%
06.	Are there any courses that will not be offered in digital teaching?	175	70.00	75	30.00



Graph 4.6. Graphical Representation of Item No. 6

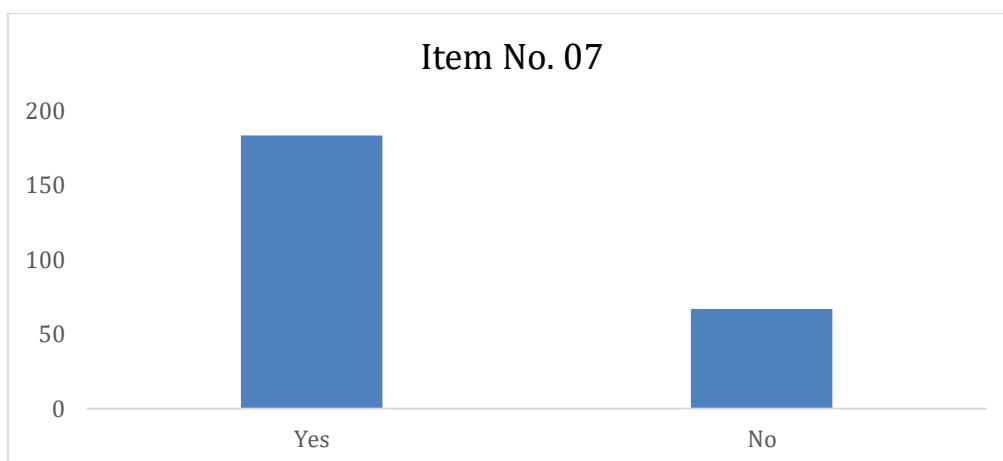
From the above data, it can be concluded that most of the sample i.e., 70.00% stated that there are some courses which are not offered in digital teaching and 30.00% stated that there are no such courses which are not offered in digital teaching. Hence, the majority of the samples' response indicates that traditional teaching is better for practical courses which is not possible to teach in digitally.

4.7. Frequency Wise Analysis of Item No. 07.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.7.

TABLE-4.7

Item No.	Item	Yes	%	No	%
07.	Can I choose for my children to be on different options... one student face-to-face and the other child online?	183	73.20	67	26.80



Graph 4.7. Graphical Representation of Item No. 7

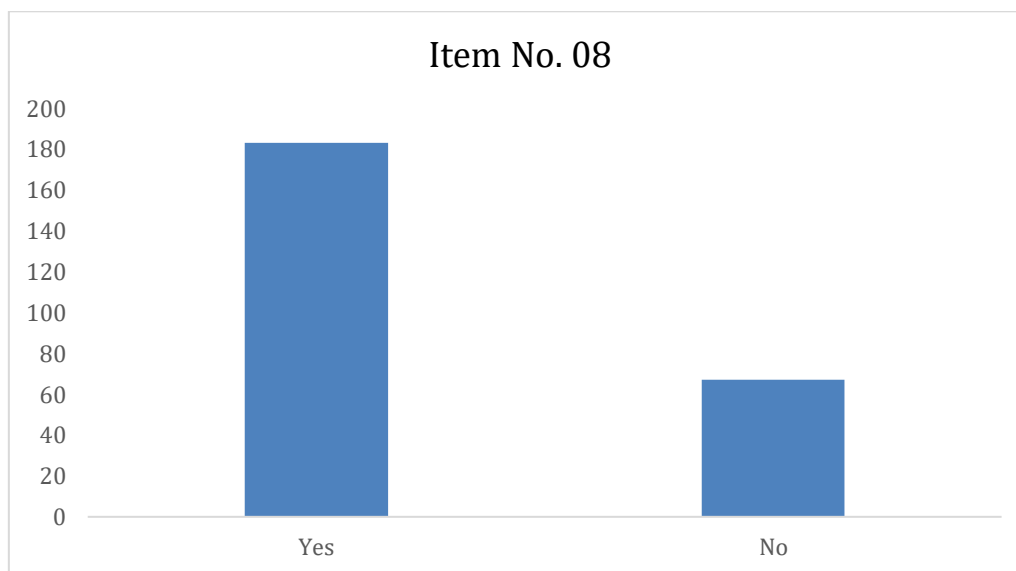
From the above information, it can be concluded that most of the responded i.e., 73.20% stated that the parents can choose two different modes of teaching for their child, one is in traditional and the other is in digital teaching and 26.80% stated that the parents cannot choose two different modes of teaching for their child. Hence, the majority of the stakeholders' response indicates that in this situation, parents can easily find out the differences between the traditional and digital teaching.

4.8. Frequency Wise Analysis of Item No. 08.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.8.

TABLE-4.8

Item No.	Item	Yes	%	No	%
08.	Will the college system be able to offer extra-curricular activities in digitally?	194	77.60	56	22.40



Graph 4.8. Graphical Representation of Item No. 8

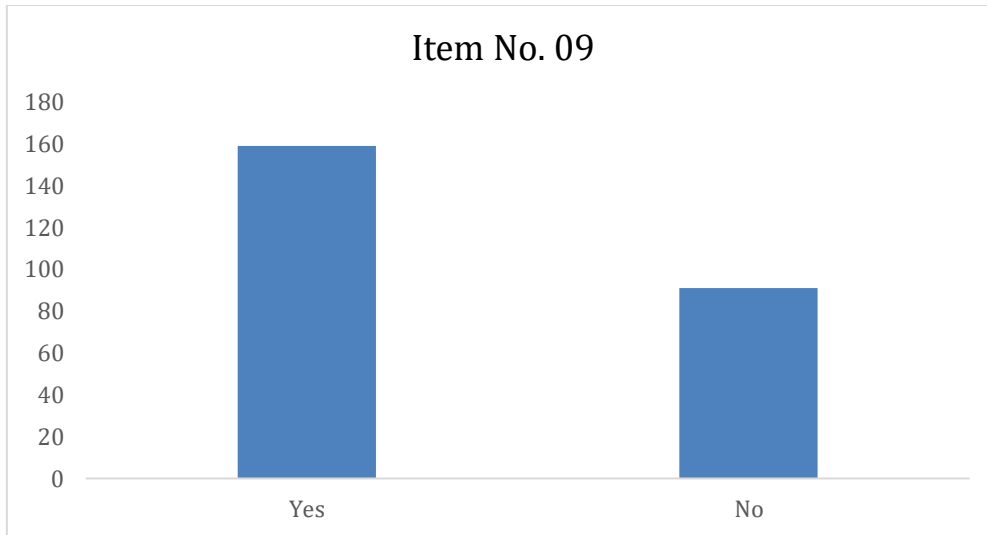
From the above data, it can be concluded that most of the sample i.e., 77.60% stated that the college system is able to offer the extra-curricular activities in digitally and 22.40% stated that the college system is unable to offer the extra-curriculum activities in digitally. Hence, the majority of the samples' response indicates that digital teaching is more suitable to offer the extra-curricular activities.

4.9. Frequency Wise Analysis of Item No. 09.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.9.

TABLE-4.9

Item No.	Item	Yes	%	No	%
09.	If so, will students who choose digital learning be able to participate?	159	63.60	91	36.40



Graph 4.9. Graphical Representation of Item No. 9

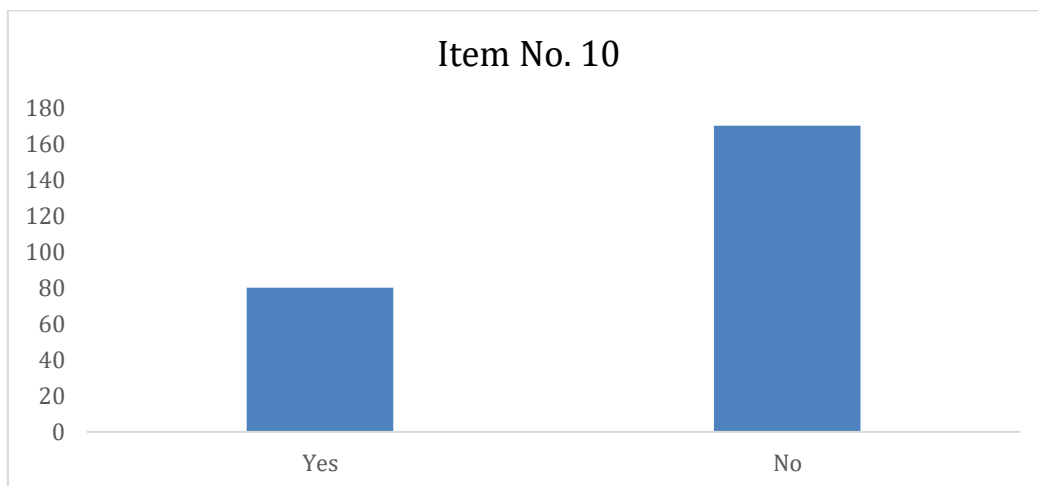
From the above information, it can be concluded that most of the responded i.e., 63.60% stated that the students are able to participate in the extra-curricular activities in digitally and 36.40% stated that the students are unable to participate in the extra-curricular activities in digitally. Hence, the majority of the stakeholders' response indicates that in this situation, digital teaching is more favorable than the traditional teaching.

4.10. Frequency Wise Analysis of Item No. 10.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.10.

TABLE-4.10

Item No.	Item	Yes	%	No	%
10.	Will there be separate teachers for digital and traditional teaching?	80	32.00	170	68.00



Graph 4.10. Graphical Representation of Item No. 10

From the above data, it can be concluded that most of the sample i.e., 68.00% stated that there are no separate teachers for digital and traditional teaching and 32.00% stated that there are the separate teachers for digital and traditional teaching. Hence, the majority of the

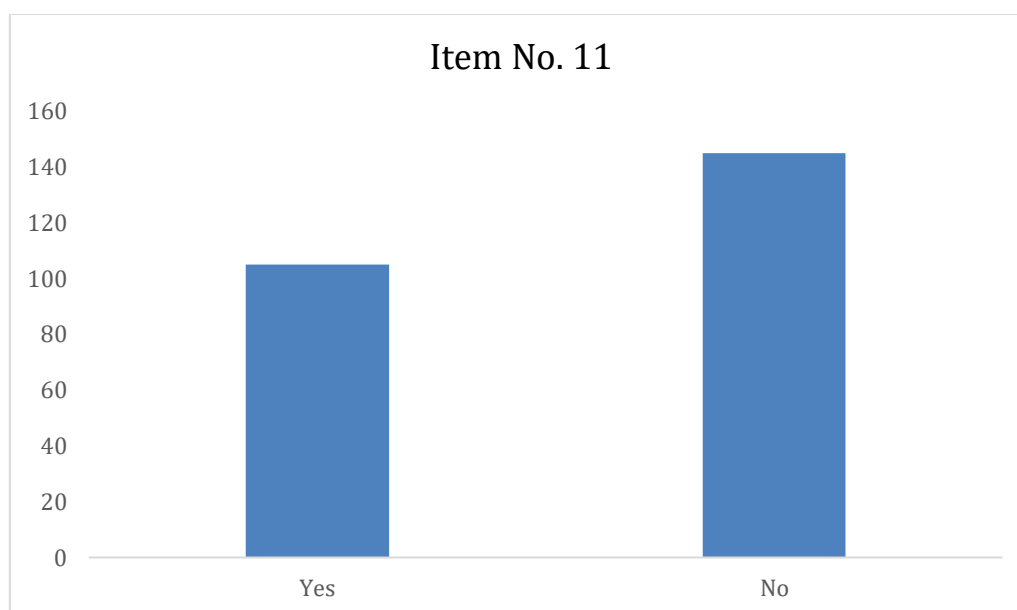
samples' response indicates that in this situation, the learners can easily find out the differences between the traditional and the digital teaching.

4.11. Frequency Wise Analysis of Item No. 11.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.11.

TABLE-4.11

Item No.	Item	Yes	%	No	%
11.	Will digital learning be taught by teachers from their institute?	105	42.00	145	58.00



Graph 4.11. Graphical Representation of Item No. 11

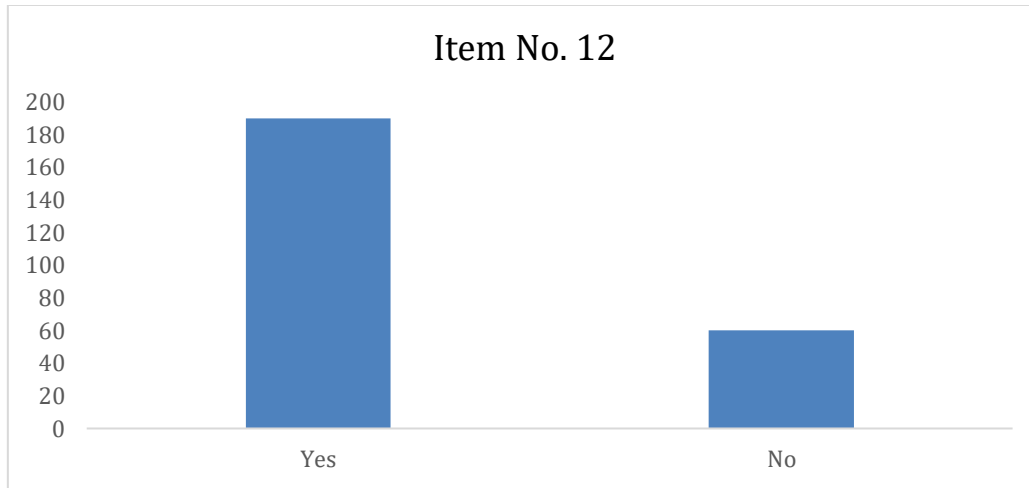
From the above information, it can be concluded that most of the responded i.e., 58.00% stated that the digital learning is not taught by the teachers from their institute and 42.00% stated that the digital learning is taught by the teachers from their institute. Hence, the majority of the stakeholders' response indicates that digital teaching can provide from anywhere at any time. In respect of this question, the differences are slightly noticeable here.

4.12. Frequency Wise Analysis of Item No. 12.

The researcher calculated the frequencies of each response of the stakeholders, which is presented in table-4.12.

TABLE-4.12

Item No.	Item	Yes	%	No	%
12.	Does your institute prepare students for a world where the vast majority of learning takes place outside of colleges?	190	76.00	60	24.00



Graph 4.12. Graphical Representation of Item No. 12

From the above data, it can be concluded that most of the sample i.e., 76.00% stated that the institute prepare their students for a world where the vast majority of learning takes place outside of colleges and 24.00% stated that the institute does not prepare their students for a world where the vast majority of learning takes place outside of colleges. Hence, the majority of the samples' response indicates that digital teaching is more suitable to prepare the learners for their better future than the traditional teaching.

VIII. CONCLUSION:

Majority of Teachers and Students had the positive perceptions regarding Digital Teaching and Traditional Teaching. Though, there are the differences in their opinions towards Digital and Traditional Teaching. Some of the portions of the Teachers had indicated that the Traditional Teaching is more suitable in one-on-one attention and it is better for practical courses which is not possible to teach in digitally. Majority of Teachers and Students pointed out some advantages of Digital Teaching like, it is more effective in this pandemic situation, the teachers are almost always available outside their college hours, there are some flexible expectations which is merely possible in traditional teaching and it is more suitable to prepare the learners for their better future than the traditional teaching. Some parents had pointed out the differences between the two, like digital teaching is more suitable to offer the extra-curricular activities whether traditional teaching is more suitable for practicum courses.

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