



**ASSESSMENT OF THE NEEDS AND ASPIRATIONS OF THE 21ST CENTURY LEARNERS
REGARDING SELECTED LEARNING THEORIES AT THE SECONDARY LEVEL**

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ABSTRACT

The term '21st century' has become the essential part of instructional philosophy and planning for the upcoming scenario. Educationalists, thinkers and instructors are dynamically probing for novel means of grooming students for forthcoming times, and the educational organisation has been progressing at a much swifter pace than ever before. Now-a-days, schools focus on the development of skills to be possessed by students to become prosperous in the 21st century, instead of hanging around rote memorization and teacher-centred classrooms. In spite of all these advancements, the present educational system requires to spotlight the needs of the 21st century learners. It should deliberately instigate teachers to outline digital learning experiences that kindle invention and originality in a productive manner. The administrators need to initiate a shared visualisation and an absolute strategy for the teachers and students, which bring about the evolution of a fresh viewpoint of classroom instruction through technology. This paper aims at exploring the impact of the existing educational system on the 21st century learners to cater their needs. Also, it aims at identifying the needs and aspirations of the 21st century learners in the light of the prevailing theoretical frameworks in education.

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INTRODUCTION

The classrooms of the 21st century will obviously differ from the classrooms of the earlier times. The prime emphasis of today's classrooms centre around creating students who are competent in collaboration and communication skills; innovative thinkers and problem solvers; self-led and self-regulated learners; and proficient operators of an extensive array of germane and up-to-date technologies. The 21st century students need to outgrow the skills expected out of the students in the 20th century. This demands them to be well-balanced and vibrant partners of the 21st century global community.

The traditional concept of implementing the 'one size fits all' approach in instructional practices and strategies is no longer be employed in the classrooms, due to the emerging impact of multiple and emotional intelligences of learners. Instead, the teachers judge the student needs and their learning styles and then resort to a range of instructional approaches to meet the requirements of all students in the classroom. Students work on multidisciplinary schemes that blend ideas and abilities from numerous disciplines and tackle a series of crucial skills, social and cultural values and curriculum standards inevitable for the students to thrive in the 21st century.

This all-inclusive approach to learning and evaluation is more significant, genuine and characteristic of the real world in which students survive and the profession they will move into. Students use various resources and a collection of universal technologies for information creation, processing, assimilation and sharing throughout the learning process. The core of teaching, learning and assessment has relocated from mere memorisation of information to higher order thinking skills, which ultimately equip them to be capable of evaluating and revising their own learning needs. They are anticipated and encouraged to apply their learning and exhibit their knowledge, interpretation and skills through their behaviours and the learning activities they engage in. Thus the prominence in the 21st century classroom is on crafting lifelong learners. With this target, students go beyond the boundaries of the classroom to learn through actual world experiences.

Statement of the Problem

'Assessment of the Needs and Aspirations of the 21st Century Learners regarding Selected Learning Theories at the Secondary Level'

Objectives of the Study

1. To study whether the existing educational pattern caters to the needs and aspirations of the twenty- first century learners.

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- To assess the needs and aspirations of the twenty-first century learners based on the application of contemporary learning theories.

METHODOLOGY ADOPTED

The needs and aspirations of the 21st century learners at the secondary level were assessed using a survey grounded on three learning theories namely Behaviourism, Constructivism and ICT integration. To obtain an understanding of the field level experiences and anticipations of the high school students on the possibility of a progressive configuration of an exclusive class of 21st century learners, the investigator endeavored a field level survey, employing an investigator-designed tool namely ‘Prevalence- Preference Analysis Questionnaire’ (PPAQ).

Tool Constructed and Implemented

In order to assess the needs of the 21st century learners, a tool named ‘Prevalence- Preference Analysis Questionnaire’ (PPAQ) was constructed with 90 questions based on three learning theories namely behaviorism, constructivism and ICT integration. The pilot study for standardizing the tool was conducted. The reliability and validity of the tool was ascertained following the conventional statistical procedures. The final version of the tool constituted 32 objective level questions, which broadly comprised three major psychological/technological theoretical paradigms in practice namely Behaviorism (T1), Constructivism (T2) and ICT Integration (T3).

Sample for the study

Data was collected from 512 samples of high school students randomly selected from Government schools, Government Aided schools and Unaided/ New Generation schools in Thiruvananthapuram district, Kerala.

Statistical Techniques Used

The statistical interpretation of the collected data was done. The data were tabulated with coding ‘1’ for positive responses and ‘0’ for negative or no responses. The responses were summated both on the prevalence side and preference side to obtain consolidated data and then subjected to statistical interpretation using the techniques of standard deviation, f-value and ANOVA. The investigator attempted comparisons and analyses based on the prominent learning theories (T1, T2 and T3 mentioned earlier), with Prevalence analysis first, followed by Preference analysis.

Theory-wise Prevalence Analysis

For descriptive statistical analysis, the mean scores of T1, T2 and T3 were subjected for standard deviation computation and the result is shown in Table 1.

Table 1 Calculation of Standard deviation

Theories	Mean (N=512)	Standard Deviation
T1	74.68	18.26
T2	53.20	24.65
T3	59.42	20.12

The standard deviation values on analysis indicate that for T1, the mean score is high compared to T2 and T3 with less standard deviation. Thus the high rate of Prevalence of theoretical practice is for T1 (Behaviorism) compared to T2 (Constructivism) and T3 (ICT Integration).

In order to investigate the within-subjects effects, the investigator also attempted one-way ANOVA, and thereby obtained difference among theories; where correction procedures like Greenhouse-Geisser, Huynh-Feldt and Lower-bound were employed to meet the sphericity assumption violation effect.

Table 2 Calculation of F-value

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Theory	Sphericity Assumed	2.00	62563.58		
	Greenhouse-Geisser	125127.16	1.83	68302.89	210.266 .000
	Huynh-Feldt		1.84	68070.24	
	Lower-bound		1.00	125127.16	
Error (theory)	Sphericity Assumed	1022.00	297.55		
	Greenhouse-Geisser	304091.59	936.12	324.84	
	Huynh-Feldt		939.32	323.73	
	Lower-bound		511.00	595.09	

The F-value obtained in table 2 indicates that the test is significant (p-value < 0.01). Thus there is significant difference in Prevalence among the three theories (T1, T2 and T3) at 5% level of significance.

Table 3 shows the result of Bonferroni’s post hoc test done for pair-wise comparisons.

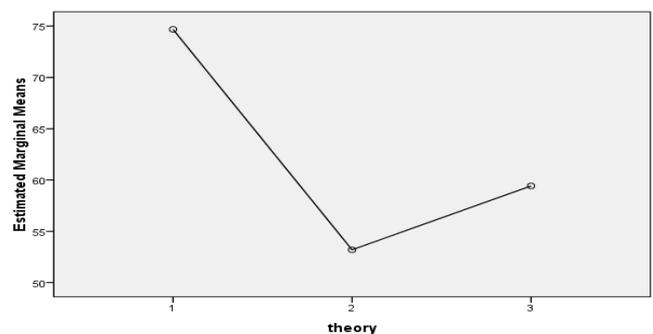
Table 3 Bonferroni’s post hoc test done for pair-wise comparisons

(I) Theory	(J) Theory	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
1	2	21.484*	.942	.000	19.222	23.747
	3	15.259*	1.053	.000	12.729	17.789
2	1	-21.484*	.942	.000	-23.747	-19.222
	3	-6.226*	1.221	.000	-9.158	-3.294
3	1	-15.259*	1.053	.000	-17.789	-12.729
	2	6.226*	1.221	.000	3.294	9.158

Based on estimated marginal means
 * The mean difference is significant at the 0.05 level
 a. Adjustment for multiple comparisons: Bonferroni.

The result confirmed that the three theories T1 (Behaviorism), T2 (Constructivism) and T3 (ICT Integration) are significantly different from each other. The estimated marginal means of the three theories are graphically represented below.

Estimated Marginal Means of MEASURE_1



Hence we can conclude that the prevailing facilities, the classroom environment and academic climate in our schools today mainly satisfy the provisions and requirements of Behavioristic pattern and has least prevalence of both Constructivist and ICT Integration patterns.

Theory-wise Preference Analysis

For descriptive statistical analysis, the mean scores of T1, T2 and T3 were subjected for standard deviation computation and the result is shown in table 4.

Table 4 Calculation of Standard deviation

	N	Minimum	Maximum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Score (T1)	512	.00	100.00	87.22	0.73	16.45
Score (T2)	512	.00	100.00	90.01	0.66	15.02
Score (T3)	512	6.69	101.09	86.25	0.80	18.14

The standard deviation values on analysis indicate that for T2, the mean score is high compared to T1 and T3 with less standard deviation. Thus the high rate of Preference of theoretical practice is for T2 (Constructivism) compared to T1 (Behaviorism) and T3 (ICT Integration).

In order to investigate the within-subjects effects, the investigator also attempted one- way ANOVA, and thereby obtained difference among theories; where correction procedures like Greenhouse-Geisser, Huynh-Feldt and Lower-bound were employed to meet the sphericity assumption violation effect.

Table 5 Calculation of F-value

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Theory	Sphericity Assumed	2	1955.804		.000	
	Greenhouse-Geisser	3911.608	1.822	2147.005	11.543	.000
	Huynh-Feldt		1.828	2139.759		.001
	Lower-bound		1.000	3911.608		
	Sphericity Assumed		1022	169.441		
Error (theory)	Greenhouse-Geisser	173168.911	930.986	186.006		
	Huynh-Feldt		934.139	185.378		
	Lower-bound		511.000	338.882		

The F- value obtained indicates that the test is significant (p-value < 0.01). Thus there is significant difference in Preference among the three theories (T1, T2 and T3) at 5% level of significance.

Table 6 shows the result of Bonferroni’s post hoc test done for pair-wise comparisons.

Table 6 Bonferroni’s post hoc test done for pair-wise comparisons

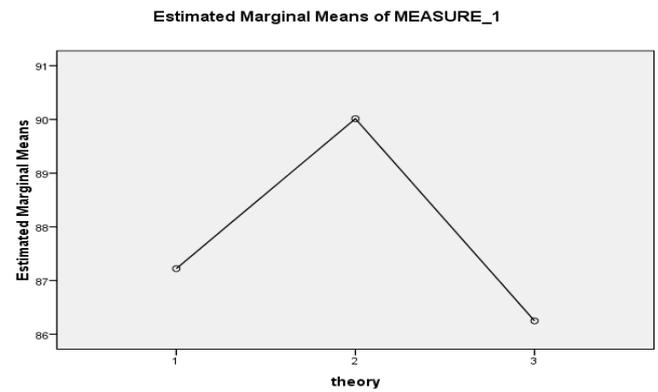
(I) Theory	(J) Theory	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
1	2	-2.792*	.681	.000	-4.429	-1.156
	3	.973	.902	.844	-1.193	3.139
2	1	2.792*	.681	.000	1.156	4.429
	3	3.765*	.842	.000	1.744	5.786
3	1	-.973	.902	.844	-3.139	1.193
	2	-3.765*	.842	.000	-5.786	-1.744

Based on estimated marginal means

*. The mean difference is significant at the 0.05 level

a. Adjustment for multiple comparisons: Bonferroni.

The result confirmed that the three theories T1 (Behaviorism), T2 (Constructivism) and T3 (ICT Integration) are significantly different from each other. The estimated marginal means of the three theories are graphically represented below.



Hence we can conclude that the preferring facilities, the classroom environment and academic climate in our schools today mainly satisfy the provisions and requirements of Constructivist pattern and has least prevalence of both Behaviorist and ICT Integration patterns.

DISCUSSION OF FINDINGS

From the statistical analysis, the investigator arrived at the following interpretations:

Considering the Prevalence of the needs of the 21st century learners,

- The high school students get the facilities to satisfy the needs based on the Behaviorist theory more than the needs based on the Constructivist theory and ICT Integration.
- The result shows that with respect to Prevalence, the needs based on the three theories- Constructivism, Behaviorism and ICT Integration are significantly different from each other.

Considering the Preference of the needs of the 21st century learners,

- The high school students prefer needs based on the Constructivist theory to the needs based on the Behaviorist theory and ICT Integration.
- The result shows that the needs based on the three theories- Constructivism, Behaviorism and ICT Integration are significantly different from each other.

- The result shows that with respect to Preference, the needs based on the Constructivist theory are significantly different from the needs based on the Behaviorist theory and ICT Integration, and no

significant difference exists between the needs based on the Behaviorist theory and ICT Integration.

CONCLUSION

The 21st century learners are contemplative and enthusiastic, and they maintain themselves up-to-date of the world around them and are active participants in their own learning. They are well aware of the need to get engaged in meaningful learning using a range of technological innovations. The survey discovered that though the high school students get provisions to gratify the needs based on the Behaviorist theory, they prefer the needs based on the Constructivist theory. This highlights the inevitability for an instantaneous change in the product as well as process dimensions of delivering instruction to the 21st century learners, which gives priority to the needs and aspirations of the learners as well. This eventually points toward the need for a thorough revamping of the current instructional approaches and strategies.

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