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Attainment of Student Engagement in Learning: An Empirical Investigation in Secondary Schools of Kerala

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HIGHLIGHTS

- Kerala's performance in terms of qualitative benchmarks such as student learning outcomes (SLOs) and equity is sub-optimum.
- The selected variables such as the parental education, social group and type of school had a significant impact on student engagement in learning in Kerala.
- Government and School administration should implement initiatives to improve student engagement in learning in an equitable manner in Kerala.

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ABSTRACT

High quality of school education can contribute significantly to socio-economic development of a region. In Kerala, quantitative parameters such as highest gross enrolment ratio (GER) and lowest dropout rate in school education are ideal. At the same time, Kerala's performance in terms of qualitative benchmarks such as student learning outcomes (SLOs) and equity are at sub-optimum. Conceptually quality is positively related to the achievement of SLOs, which in turn requires attainment of student engagement in learning (SEL). There is limited research on determinants of SEL in school education in Kerala. The present study aimed to investigate the SEL in Kerala. To achieve the goal, collected primary data from 584 students of private-aided schools (PASs) and state-government schools (SGSs) during the period from July 2024 to November 2024. To analyze the data, statistical tools such as Mean, Standard Deviation and F-test were used. The study found that selected variables such as mother's education, social-group and type of school of the students had significant impact on student engagement in learning in Kerala. Based on the findings, the paper recommends that the Government and School administration should implement initiatives to improve student engagement in learning in an effective and equitable manner in Kerala.

INTRODUCTION

Kerala is far ahead in terms of quantitative attainments such as high gross enrolment ratio, lowest dropout rate and lowest repetition rate in school education. For instance, the 'gross enrolment ratio' (GER) for 10th standard in Kerala was 90.6 per cent in 2020-21 and it rose significantly to 97.9 per cent in 2021-22 (National Achievement Survey, 2021; Ministry of Education, 2022; UDISE Plus, 2022). However, the attainment in qualitative parameters such as student learning outcomes (SLOs) are sub-optimum. It is obvious from the drop in ranking of Kerala from 'fourth' to 'seventeenth' position in the SLOs over the period from 2017-18 to 2021- 22. Kerala ranked 'second' with a score of 826 out of 1000 in Performance Grade Index (PGI) in 2017-18. Since then, its performance has deteriorated,

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dropping to 'fourth rank' in 2021-22 with 609.70 out of 1000 (Ministry of Education, 2018; National Achievement Survey, 2021; Ministry of Education, 2022; UDISE Plus, 2022). What are the causes behind this quality deterioration? Earlier literature argues that inadequate student engagement in learning (SEL) might be one of the causes of poor student learning outcomes (SLOs) (Vattanaamorn et al., 2022; Matsumoto et al., 2023). Based on this evidence, the role of student engagement in learning has gained utmost importance in the literature of educational quality, new educational policy and practice (Arun et al., 2022; Wong & Gregory, 2022). It might be due to its interconnection between student learning outcomes and student engagement in learning. The relevance of student engagement in learning during the various modes of learning is relevant. The learning takes various forms such as online, face-to-face and hybrid modes in India as well as in Kerala. Social networking and the quality of faculty also has implications on the development of student engagement in learning (Borah & Devarani, 2022; Devi & Sornapudi, 2022; Dhanwal et al., 2022; Sheoran et al., 2022; Mishra & Kumari, 2024).

Empirical findings indicate that there are various components that constitute student engagement in learning. There is less consensus on the applicability of each construct since they are unique and distinct. They argue that student engagement in learning would be the primary step towards the optimization of quality. Literature indicates that there is an intimate relationship between the quality of education in schools, learning outcomes and student engagement in learning (Vattanaamorn et al., 2022; Matsumoto et al., 2023; Arun et al., 2022; Wong & Gregory, 2022). Based on the importance of student engagement in learning, the present study presumes that inadequate student engagement in learning would be the prime cause behind the quality deterioration in Kerala. Based on the importance of student engagement in learning, the present investigation attempts to analyse student engagement in learning and the role of selected socio-economic and demographic variables which determined it.

METHODOLOGY

The study selected 10th standard students of private-aided and state-government schools for the survey. It was mainly because of the following reasons. (1) enrolment of students is the highest in state-government and private aided students in Kerala; (2) student learning outcomes (SLOs) of state government and private-aided students are sub-optimum compared to students in private-unaided and central-government schools and (3) 10th standard students are the highest group in higher secondary section (National Achievement Survey, 2021; Ministry of Education, 2022; UDISE Plus, 2022). After the fixation of population, the study divided the districts of state to the three categories based on the scores in performance Grade Index (PGI). From each category, one district from each stratum was randomly chosen for further processes. These districts were then divided into blocks, and two schools were selected from each block, representing both from state government and private-aided strata. Subsequently, the study approached sample schools and collected information of 10th standard students from the school register. From the information, the study divided them according to their social group, mother's education, father's education and gender (Havik & Westergård, 2020; Nambissan, 2020; Davis-Kean et al., 2021; Rani & Ravindranath, 2021; Dhar et al., 2022; Kamal, 2023; Nunez, 2023). Subsequently, sample students were categorized into five sections. They are:- (1) district; (2) ownership of school; (3) gender; (4) social group (5) father's education and (5) mother's education. Subsequently, the study selected students from each stratum randomly and ensured proportionate sample size from each stratum. The sample was selected through the 'Lahiri method' under probability proportionate size sampling techniques (Hounyo & Lahiri, 2023). As per the appointment of school administration and students, face-to-face interviews were conducted with sample students. For thefinalsurvey,196studentswereselected from the Ernakulum district, 212 from Kollam district, and 176 from Kozhikode district. Based on the sample size criteria, this study selected a sample of 584 students in the sample schools from Kerala. Total sample students were 584 in the study. In the analysis group, 251 students were from private-aided schools, whereas 221 students were from state-government schools. The students from forward caste were 272 and students from other backward castes (OBC) group were 191. Most of the mothers of sample students have an educational qualification of Secondary School Leaving Certificate (SSLC) or Plus-two categories, and their number was 266. Once the classification was completed, a 'structured questionnaire' was prepared.T he questionnaire had five sections and required items. Subsequently, a pilot study was conducted. The final primary survey was conducted through face-to-face mode between July 2024 and November 2024. Each interview with respondents took almost 40 to 45 minutes. Data collected through primary survey was tested for consistency and validity by using Cronbach's Alpha (Kennedy, 2022). Successively, the primary data was analysed by using tools such as Mean, Standard Deviation and F-test.

RESULTS

The results of the analysis are exhibited in Table 1. It depicts Mean and Standard Deviation of all 18 items to measure the level of student engagement in learningin schools in Kerala. The study selected some of the dimensions of student engagement in learning such as affective engagement in learning, behavioural engagement in learningand cognitive engagementin learning. The items on each dimension are exhibited in Table 1. The term 'student engagement in learning' may be interpreted as students' motivation to learn, state of flow and school connectedness. This construct may be elaborated that it is the students' interest, enjoyment and concentration in school work. Student involvement and academic engagement in learning are seemingly similar. These two branches of student engagement in learningare significant in attainments in education. The literature on student engagement in learningrevealed that there are some models that discussed the student engagement in learningin detail. They are:- (1) participation-identification model; (2) self-system model of motivational development; (3) flow theory; (4) school-work engagement; (5) participation-attachment-commitment-membership (PACM) model; (5) motivation and engagement wheel; (6) four-factor taxonomy; (7) agentic engagement and (8) social engagement (Ryan & Deci, 2017; Shernoff et al., 2017; King & McInerney, 2019; Wong & Liem, 2022). The present study treatsstudent engagement in learningas a multi-dimensional construct. It consists of affective in learning, behavioural in learning and cognitive in learning (Quin et al., 2017). The 'affective

Table 1. Student engagement in learning of secondary schools in Kerala

Component	Items	Mean	S.D
AffectiveEngagement in Learning	I enjoyed learning	5.18	1.243
	I have belongingness to my school	5.48	1.465
	I have a high interest in homework	5.87	1.308
	I am enthusiastic about learning at home	5.62	1.387
	I am happy in learning	5.89	1.153
	I have a good relationship with teachers in learning	5.39	1.117
BehavioralEngagement in Learning	I have a good relation with my mother in learning	5.81	1.287
	I have a good relation with my father in learning	5.47	1.258
	I have positive conduct in home	5.18	1.723
	I participate in extra-curricular activities in school	5.93	1.294
	I am ready to make effort	5.78	1.843
	I am able to concentrate on learning	5.66	1.756
CognitiveEngagement in Learning	I understand concepts clearly	5.73	1.238
	I am persistent in learning	5.59	1.489
	I follow self-regulated learning	5.26	1.297
	I know the value of learning	5.87	1.348
	I know the role of schools in future aspirations	5.93	1.634
	I am dedicated to strategies of learning	5.84	1.279

engagement' may include items such as enjoyment in learning, belongingness to school, interest in homework, enthusiasm on learning at home, happiness in learning, relationship with teachers, and relationship with mothers of student. The 'behavioral engagement in learning' may include items such as positive conduct in home, participation in extra-curricular activities in school, willingness to take effort, degree of concentration in learning, understanding concepts, and persistent in learning. The 'cognitive engagement in learning' may include items such as self-regulated learning, understanding the value of learning, understanding role of schools in future aspirations and dedication to strategies of learning.

Dimensions of student engagement in learningin school education in Kerala

Table 2 exhibits the results on the effect of socio-economic and demographic variables on the attainment of affective engagement in learning. It shows the F-test results of variables such as type of school, gender, social group, father's education and mother's education on the attainment of affective engagement in learningin students of 10th standard schools in state-government and aided schools in Kerala. The mean values of maximum variables are higher than the benchmark level and values of 18 variables are also at optimum. It indicates that all sample students have given their responses with respect to various choices. The results indicate that the range of standard deviation is ideal. The affective engagement in learningtreated as dependent variable and school, social group, father's education and mother's education are independent variables which could influence it. For variables such as school, social group, father's education and mother's education, the significance values are less than 0.05, indicating that there is a significant effect of these variables on affective engagement in learning. It hints that 'type of school' has a significant impact on the affective engagement in

Table 2. Impact of selected variables on the attainment of affective engagement in learning

Variable	Disparity	Sum of square	Degree of freedom	Mean square	F-value	P-value
School	Between the Groups	13.087	2	0.478		
	Within Groups	138.978	582	0.347	2.847	0.027
	Total	157.681	583			
Gender	Between Groups	0.184	1	0.184		
	Within Groups	151.809	582	0.319	.207	0.228
	Total	158.681	583			
Social Group	Between Groups	12.347	3	0.534		
	Within Groups	138.274	581	3.847	8.125	0.000
	Total	153.690	582			
Mother's Education	Between Groups	11.875	3	0.482		
	Within Groups	139.892	581	3.689	7.416	0.000
	Total	154.767	582			
Father's Education	Between Groups	13.875	3	0.472		
	Within Groups	138.921	581	0.489	3.416	0.024
	Total	158.767	582			

Table 3. Impact of selected variables on the attainment of behavioural engagement in learning

Variable	Disparity	Sum of square	Degree of freedom	Mean square	F-value	P-value
School	Between Groups	6.638	2	0.601		
	Within Groups	167.032	582	2.132	3.692	.014
	Total	175.567	583			
Gender	Between Groups	0.789	1	0.789		
	Within Groups	178.679	582	0.618	1.389	.262
	Total	175.686	583			
Social Group	Between Groups	10.685	3	3.568		
	Within Groups	165.995	581		.359	.000
	Total	175.867	582			
Mother's Education	Between Groups	5.801	3	2.967		
	Within Groups	167.756	581	0.594	5.253	.007
	Total	175.567	582			
Father's Education	Between Groups	6.729	3	0.708		
	Within Groups	169.489	581	2.815	3.879	.031
	Total	178.767	582			

Table 4. Impact of selected variables on the attainment of cognitive engagementin learning

Variable	Disparity	Sum of square	Degree of freedom	Mean square	F-value	P-value
Gender	Between Groups	0.084	2	0.98		
	Within Groups	178.742	582	0.827	0.165	0.689
	Total	191.836	583			
School	Between Groups	6.594	1	1.589		
	Within Groups	167.964	582	0.685	2.758	0.024
	Total	173.967	583			
Social Group	Between Groups	6.587	3	2.178		
	Within Groups	174.231	581		3.456	0.014
	Total	182.836	582			
Mother's Education	Between Groups	8.547	3	0.635		
	Within Groups	178.378	581	2.789	4.856	0.003
	Total	182.926	582			
Father's Education	Between Groups	7.859	3	0.987		
	Within Groups	169.895	581	1.827	0.165	0.089
	Total	174.857	582			

Source: Authors computed from primary data

learningin schools in Kerala. Table 3 depicts F-test results of selected variables on the attainment of behavioural engagement in learning in 10th standard in schools in Kerala. For variables such as school, social group, father's education and mother's education, the significance values are less than 0.05, indicating that there is a significant effect of these variables on affective engagement in learning. It signals that 'type of school' has a significant impact on the affective engagement in learningin schools in Kerala. It indicates that 'gender of the student' has an insignificant impact on the attainment of affective engagement in learningin schools in Kerala.

Table 4 depicts the impact of selected variables such as gender, social group, father's education and mother's education and school on the attainment of cognitive engagement in learning. Table 4 indicates that the selected variables have significant role in the attainment of cognitive engagement in learningin schools in Kerala. The P-value indicates that school, social group, father's education and mother's education are pivotal in determining the cognitive attainment in learning of students in schools in Kerala. On the contrary, 'gender of the student' has an insignificant effect on the cognitive engagement in learningon schools in Kerala. It is evident that 'gender' has an insignificant impact on the student engagement in in learning in Kerala. The major finding of the present study indicated that mothers' education of the student, father's education, schools attended and social group has significant impact on the student engagement in learning in Kerala.

DISCUSSION

Based on the analysis, it can be inferred that the variables which could affect student engagement in learning were social group, father's education, mothers' education, type of school attended, and gender of the students. Firstly, this study found that the 'social group of the student' is an important factor that could influence various dimensions of engagement in learning. Findings on the role of 'social group' in the present study appear to be similar to some of the

previous literature on quality and equity in school education. Previous literature argued that the 'social group of the student' would influence attainment in school education substantially (Havik & Westergård, 2020; Nambissan, 2020; Dhar et al., 2022; Kamal, 2023).

Secondly, the present study found that 'parental education of the student' seems to has a significant impact on student engagement on learning in Kerala. In other words, mothers have a crucial role in determining the attainment of student engagement in learningon school education in Kerala. It implies that parental support for their children is necessary in Kerala to improve student engagement in learning in Kerala. These findings appear to be supported by a positive role of parental education and involvement in the attainment of student engagement in learning (Davis-Kean et al., 2021; Rani & Ravindranath, 2021; Nunez, 2023).

Thirdly, the findings suggest that 'type of school' has a significant impact on the attainment of engagement in schools in Kerala. It may be due to theimplementation of a 'public rejuvenation campaign' and a 'mid-day meal scheme' in schools in Kerala. Similarly, the nature of school administration, teaching quality and human resource management also might have improved the performance of schools. The findings seem to be backed by some of the existing findings on the positive role of government schemes on education on student attainment in learning (Jayalakshmi & Jissa, 2017; Hoque, 2023; Paltasingh & Bhue, 2022; Thornberg et al., 2022).

In a nutshell, the present study attempted to examine the quality of school education in terms of student engagement in learning. There are various hindrances to the quality of school education in Kerala. Previous literature enquired various causes and dimensions of quality of school education in Kerala (Retnakumar & Arokiasamy, 2006; Sukumar & Kumar, 2015; Nambissan, 2020). However, they rarely enquired the interconnection between quality of school education and student engagement in learning. The present study argues that attainment of student engagement in learning (SEL) is the first and foremost step to improve the student learning outcomes (SLOs) in Kerala.

CONCLUSION

The present study finds that variables such as gender, parental education and social group have significant impact on the attainment of student engagement in learning in school education in Kerala. This finding indicates two factors. Firstly, student with educated parents can improve their engagement in learning. Secondly, students who has less-educated parents will be negatively affected in their education. Therefore, school administration and Government should arrange extra attention to the children whose parental education is insufficient. For instance, student-specific remedial courses and special coaching classes to parents will be fruitful. Secondly, 'schools' have a significant impact on the attainment of student engagement in learning in Kerala. 'Social group' also can significantly influence student engagement in learning in schools in Kerala.Based on the findings, the paper argues that the Government and School administration should implement initiatives to improve student engagement in learning in an efficient, effective and equitable manner in Kerala.

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