

The Impact of Teacher-Student Relationships on Learning Engagement: A Study of Guangxi Universities in China

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Abstract

The study aims to examine the significant relationship between teacher-student relationship and students' learning engagement in China Guangxi Universities. Data was collected using an online Likert 5 scaling questionnaire distributed to students in three Guangxi Universities. The Pearson Correlation analysis and multiple regression results confirmed the positive impact of teacher-student interaction, learning motivation, and perceived teacher support on student engagement. According to the regression analysis, Perceived Teachers' Support has the strongest impact on Chinese Students Learning Engagement in China Guangxi Universities. This study fills the gap of lack of research on teacher-student relationship and students' learning engagement based on the subjective model. The practical recommendations will be proposed based on the findings to improve the quality of education.

Keywords: *Teacher-Student Relationship, Students' Learning Engagement, Quality Education.*

Introduction

The outline of the National Plan for Medium- and Long-term Education Reform and Development issued by the Ministry of Education of China underscores the shift towards high-quality and connotative construction in higher education, emphasizing talent development and innovation (Ministry of Education, 2023). Higher education institutions, such as those in Guangxi, are increasingly focused on enhancing the quality of teaching and learning. This shift is crucial as many students spend limited time in self-directed learning, affecting their learning outcomes negatively (Zheng et al., 2023). Active participation in research and discussions can notably enhance students' scientific research capabilities and innovation, optimizing their knowledge structure and thinking modes (Bardorfer, 2024)

Guangxi, established as an autonomous region for ethnic minorities, hosts a robust educational framework with 87 universities serving a diverse student population. In 2022, Guangxi's higher education system supported 1,839,200 students, a 6.8% increase from the previous year, highlighting a commitment to expanding educational access and improving quality (NBS, 2022; Guangxi Zhuang Autonomous Region Department of Education, 2022).

Student engagement in Guangxi universities attract many problems. The surveys show that there is a low level of interaction between a student and a teacher, consequently an ineffective learning process for the students. Traditional passive learning methods persist in the majority of the students' learning environments with them not engaging beyond the homework tasks (Kucukaydin, 2023). The absence of engagement is further accentuated by different personal and academic issues such as dissatisfaction with the process of assessments and the outcomes, which are direct indicators of the necessity for better support systems and an improved learning environment (Li et al., 2024; Woreta, 2024; Kiltz et al., 2024; Sadoughi & Hejazi, 2023; Cheon et al., 2023). It is essential to build on SDG 4 which aims at inclusive and equitable quality education and is committed to the development of lifelong learning opportunities for all (United Nations, 2024). Supporting the educational engagement in Chinese universities may be achieved with teacher training, up-to-date facilities, attitude to creative thinking, and acquisition of practical skills (Shareefa et al., 2024). These efforts aim to cultivate a vibrant educational ecosystem that supports student development and prepares them for

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successful futures (Feng & Xiao, 2024; Sun et al., 2022).

While existing research underscores the benefits of teacher-student interactions on learning outcomes, most studies focus on primary and middle school settings (An et al., 2023; Pan, 2023; Simic and Vukelic, 2023; Shakk, 2022). There is a notable gap in research exploring these dynamics within the context of higher education in China, particularly in ethnically diverse regions like Guangxi. Additionally, the relationship between learning motivation and academic achievement needs further investigation at the university level, to develop targeted strategies that enhance engagement and educational outcomes in this unique socio-cultural landscape (Frumos et al., 2024; Sun et al., 2022; Sason and Kellerman, 2022; Xia et al., 2022). This quantitative study is based on the subjective model by Bush (2020), aiming to test teacher-student relationship and Chinese students learning engagement, comparing teacher-student interaction, learning motivation, perceived teachers' support and student engagement in Guangxi Universities.

Literature Review

Learning engagement is a complex, multi-dimensional construct critical to academic achievement and personal development. It includes behavioral, emotional, cognitive, and social aspects that define students' participation in and reactions to educational activities (Osman et al., 2024; Siregar et al., 2023; Miao et al., 2022; Wong & Liem, 2022;).

The roles of the teacher student in sustaining the student engagement and achievement across all educational levels are essential (Wong et al., 2024). These interactions professionalize the students' mindset and inspire them to join and contribute in the studying process, thus, affording a chance in both emotional and innovative platform. The success of young people depends on the healthy relationships established with them which are conducive to good performance and development into great personalities (Martin et al., 2024; Thornberg et al., 2022). Learning motivation is an internal drive that makes students try to reach the goals in the school, which can be directly related to their engagement at school and dealing with the educational environment. The quantity of interactions between students and teachers can considerably reshape this motivation that meet some of the students' basic psychological requirements, which then encourage higher intention of participation in learning activities and in turn improve the educational results as a whole (Rothwell-Warn, 2024; Choi & Han, 2023 ; Cheng, Liu, & Wang, 2023) Drawing teacher support simply stands for received social emotional and academic help given by educators which is critical for students and mainly those who come from low income families. This listener can lessen poor behaviors and better academic results by increasing students' levels of self-directedness, efficacy, and social connectivity. Although actual support might be more powerful than perceived, the overall school engagement and the loneliness degree might tremendously depend on both teacher and student (Coles III, 2024; Thornberg et al. 2022; Longobardi et al. 2021).

Teacher student interactions including learning motivation and reception supports have a significant effect on overall student learning micro process (Zare & Derakhshan, 2024; Granger et al., 2024; Escalante Torres, 2024; Derakhshan et al., 2022; Mystkowska-Wiertelak, 2022). Students that participate are more likely to be involved in both academic and extracurricular activities; they also tend to exhibit higher levels of dedication, performance, and overall success in school. This engagement is a complicated system that may be altered by relationship elements, underlying forces, and the supportive environment that educators provide

(Gao, Zhang & Xu, 2024)

Methodology

This quantitative study examined the influence of teacher-student relationships on student engagement in three Guangxi universities. Using a cross-sectional design, an online Likert questionnaire assessed variables like interaction, motivation, and perceived support. Statistical methods analyzed the data, with minimal researcher interference to ensure validity. A sample of 393 student feedback was collected. Random sampling ensured equal participation chances, and the bilingual questionnaire was distributed online,

prioritizing data clarity and reliability.

Findings and Data Analysis

Demographic Profile

The demographic breakdown of the study's participants consisted of 393 individuals, evenly distributed by gender with 196 males (49.9%) and 197 females (50.1%). The age distribution showed a higher concentration of participants in the 25-30 age range, comprising 34.6% of the sample, followed closely by those over 30 years old at 33.1%, and those between 18-24 years making up 32.3% of the sample. The majority of respondents hold a Master's degree (51.9%), with bachelor's degree holders making up 29.3%, and those with a PhD accounting for 18.8%. The participants were primarily from three institutions, with Guangxi Normal University representing the largest share at 35.1%, followed by Guangxi University at 33.6%, and Guangxi University for Nationalities at 31.3%.

Table 1. Demographic Profile

		Frequency	Percent
Gender	Male	196	49.9
	Female	197	50.1
Age	18-24	127	32.3
	25-30	136	34.6
	>30	130	33.1
Education Level	Degree	115	29.3
	Master	204	51.9
	PHD	74	18.8
School	Guangxi University for Nationalities	123	31.3
	Guangxi University	132	33.6
	Guangxi Normal University	138	35.1
Total		393	100.0

Preliminary Analysis

Bartlett's Test of Sphericity yielded a significant result with a low p-value what less than 0.05. At the same time, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.971, it suggests the data collected was valid. Furthermore, the reliability statistics measured by Cronbach's Alpha for variables is 0.935, indicating high internal consistency reliability within each construct (Shrestha 2021).

Pearson Correlation

According to results of Pearson correlation, the correlations between Teacher Student Relationship, Learning Motivation, Perceived Teachers Support and students' learning engagement are all positive and

significant with the correlation coefficient from 0.748 to 0.833.

Table 2. Correlations

		Teacher Student Relationship	Learning Motivation	Perceived Teachers Support	Students Learning Engagement
Teacher Relationship	Pearson Correlation	1	.775**	.795**	.752**
	Sig. (2-tailed)		.000	.000	.000
	N	393	393	393	393
Learning Motivation	Pearson Correlation	.775**	1	.833**	.748**
	Sig. (2-tailed)	.000		.000	.000
	N	393	393	393	393
Perceived Teachers Support	Pearson Correlation	.795**	.833**	1	.748**
	Sig. (2-tailed)	.000	.000		.000
	N	393	393	393	393
Students Learning Engagement	Pearson Correlation	.752**	.748**	.748**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	393	393	393	393

** . Correlation is significant at the 0.01 level (2-tailed).

Multiple Linear Regression

The coefficients table displays the unstandardized coefficients (B), standard errors, standardized coefficients (Beta), t-values, and corresponding p-values for each predictor variable. Each predictor variable (TSI, LM, PTS) shows a significant positive relationship with SLE, as indicated by their respective t-values and p-values. For example, TSI has a coefficient of 0.306 with a t-value of 5.461 and a p-value of 0.000, suggesting that for each unit increase in TSI, there is a corresponding increase in SLE.

Table 3. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.391	.125		3.141	.002
	Teacher Student Relationshi p	.306	.056	.292	5.461	.000
	Learning Motivation	.283	.052	.287	5.486	.000
	Perceived Teachers Support	.311	.057	.298	5.433	.000

a. Dependent Variable: Students Learning Engagement

The table of ANOVA shows that the overall regression model is statistically significant, as indicated by a significant F-statistic of 250.628 and a corresponding p-value of 0.000.

Table 4. ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	165.200	3	55.067	250.628	.000 ^b
	Residual	85.469	389	.220		
	Total	250.669	392			

a. Dependent Variable: Students Learning Engagement

b. Predictors: (Constant), Teacher Student Relationship, Learning Motivation, Perceived Teachers Support

Discussion

RQ1. What is the relationship between Teacher-Student Interaction and Chinese Students Learning Engagement in China Guangxi Universities ?

The investigation reveals a positive correlation between student-teacher interaction and student learning engagement, with coefficients ranging from 0.376 to 0.487. The presence of such pupils implies that students who have good relationships with their teachers, communication based on openness, and reciprocal respect, are likely to be more involved in learning. This support endorses the established literature, reflecting that the quality student-teacher interaction is of paramount significance for establishment of environment of learning (Longobardi et al., 2021; Liu et al, 2022). Strengthening a solid relationship between teacher and student has been constantly proved to be a key factor improving a student's level of engagement and achievement across different educational settings.

RQ2. What is the relationship between Learning Motivation and Chinese Students Learning Engagement in China Guangxi Universities ?

The research emphasized that motivation for learning, which accounts for around 50% in the overall determined engagement of students, is associated with a correlation coefficient of as much as 0.477. Thus, it reminds us that these are not as exclusively related to the intrinsic nor extrinsic motivational factors. Rather, they equally often depend on both. The components mentioned, such as teacher support systems, fun in learning, and effort to realize teachers' expectations have overarching bearing, what align with previous research (Zheng et al, 2020; Fan and Xu, 2020; Chen et al., 2020 and the theories of motivational education which approve the fact that students' motivation is closely related to their teachers' interactions as well as the learning environment.

RQ3. What is the relationship between Perceived Teachers' Support and Chinese Students Learning Engagement in China Guangxi Universities ?

The main correlation identified with this study is the connection between the teacher support role and student learning engagement with a coefficient up to 0.481. It means that students showing faith in teachers is much stronger than ordinary students whose inclination or hope is to complete the course. Supportive behaviours include how the teachers ease and manage to be approachable, practice active listening skills, and recognize achievements, play a crucial role in the positive development of learners (Nordin et al., 2024). Accordingly, the study in a way is consistent with the others which also call attention to the effect of perceived teacher support on academic outcomes, including the extent to which students are engaged with class work, the manner in which students conceive of school work, and the progress of students academically (Mahfud & Riniati ,2023; Thornberg et al, 2022; Sadoughi & Hejazi , 2022; Longobardi et al., 2021; Mahona and demetria, 2020)

Conclusion

The study at Guangxi Universities in China has identified key factors influencing student learning, notably teacher-student interaction, student motivation, and perceived teacher support. Statistical analysis confirms

these elements significantly boost student engagement. The research highlights the critical role of positive teacher-student relationships and supportive learning environments in enhancing student participation. Findings suggest that supportive teacher behavior is the most influential factor in student engagement. This study fills a research gap and aligns with the United Nations' SDG 4 on lifelong learning by promoting inclusive education through improved teacher-student dynamics. Future research could extend these insights globally, beyond the specific context of Guangxi.

Limitation

The study, focused on Guangxi Universities, may not generalize to other regions due to unique local cultural, socioeconomic, and educational contexts. Self-reporting methods used in the research are subject to biases like social desirability and recall inaccuracies, potentially affecting data reliability. The study's cross-sectional design also limits its ability to track changes over time or fully explain how the examined factors enhance student engagement. The study used the quantitative method only.

Future Study

Future research should broaden the investigation into student engagement, utilizing a wider geographical sample across China and other nations to understand cultural impacts on teacher-student dynamics. Diverse educational settings should be examined to see how different environments affect student engagement.

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