



Understanding Classroom Engagement in Chinese Higher Education: A Student Perspective

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Abstract. Student engagement has long been recognized as a key predictor of academic achievement in higher education. Fostering classroom engagement is essential for advancing the quality of higher education and cultivating high-quality talents in the contemporary era. Grounded in self-determination theory (SDT), this study employed a questionnaire survey to explore how 166 undergraduates perceive and experience highly engaging classes. The findings indicate that students expect course content to be connected to their prior knowledge and real-world life. They believe that an approachable teaching style featuring humor and clear logical reasoning could enhance learner engagement. In addition, students highlighted the importance of supportive, transparent, and constructive feedback in fostering classroom engagement. Notably, students in the humanities and STEM fields differ in their perceptions of the most significant determinants of student engagement: humanities students tend to emphasize the value of course content and their personal preference, whereas STEM students attach greater importance to structured instruction and teachers' guidance. These findings provide crucial insights into the understanding of classroom engagement and offer practical implications for instructional design and pedagogical reform in higher education.

Keywords: Student engagement; self-determination theory; higher education; humanities; STEM

1 Introduction

Student engagement has long been considered a core concept in educational research because of its close association with academic achievement, learning persistence, and psychological development[1][2]. In higher education, where the cultivation of high-quality talents is a central goal, a growing number of studies have been conducted to examine how to enhance students' classroom engagement, and have identified a variety of factors that contribute to student engagement[2]. One prominent theoretical framework that has been adopted to interpret the influencing factors is Self-Determination Theory (SDT), which maintains that engagement increases when learning environments satisfy students' needs for autonomy, competence, and relatedness[3]. However, existing empirical studies tend to examine the construct from the

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teachers' perspective and overlook students' subjective experience, not to mention that most of the research has been conducted in western contexts[4]. Therefore, this study aims to examine the issue in the context of Chinese higher education. Specifically, it investigates the following research questions:

1. According to the students, how is course content associated with classroom engagement?
2. According to the students, how is the teacher factor associated with classroom engagement?
3. According to the students, how is course assessment associated with classroom engagement?
4. Do STEM majors and humanities majors differ in their perceptions of the main factors that contribute to an engaging course?

2 Literature Review

Student engagement is commonly defined as the degree of students' active participation in the learning process[1][2]. The physical and psychological energy students invest in learning activities is widely considered a key determinant of the learning outcomes. Indeed, substantial research has supported the connection between student engagement and academic performance [1][5][6]. Studies have shown that student engagement in class could be affected by a variety of individual and contextual factors[7]. Zhao, for instance, found that university students' classroom engagement was linked to five dimensions of instruction: teaching norms and attitude, teaching content, teaching skills, teaching methods and teaching means[7]. The study noted that all five dimensions had a direct positive effect on students' initiative classroom engagement, with teaching skills and teaching approaches exerting the greatest effects. This study, however, limited the survey to undergraduate students majoring in economics and management at one single Chinese university, which restricts the generalizability of the findings.

Regarding why certain classroom practices foster higher levels of student engagement, previous studies have drawn on self-determination theory (SDT) for explanation[3]. SDT holds that student engagement increases when the learning environment supports students' basic psychological needs for autonomy, competence, and relatedness[3]. Empirical studies have further confirmed that fulfilling these needs could enhance students' classroom engagement [8][9]. As the fulfillment of these needs depends on students' subjective experiences and interpretations, it is essential to examine their perceptions of what makes a course engaging. Additionally, while disciplinary backgrounds have been shown to shape students' learning engagement[10][11], few studies have explored whether humanities and STEM students differ in their perceptions of the factors influencing classroom engagement. Taken together, existing research indicates that further research should focus more on students' own views and explore cross-disciplinary differences in perceived factors affecting classroom engagement in Chinese universities.

3 Method

3.1 Participants and Context

This study was conducted among students from several Chinese universities in mainland China. Convenience sampling and snowball sampling were combined to collect the data. The final sample consisted of 166 students, including 44 males (26.51%) and 117 females (70.48%). Participants represented different academic years and disciplinary backgrounds to explore potential perceptual differences. Sophomores accounted for the largest proportion (42.17%), followed by juniors (27.71%) and seniors (21.08%). Freshmen (6.02%) and postgraduate students (3.01%) made up the remainder. Among the participants, 46.99% majored in STEM fields, 46.39% in the humanities, and 6.63% in other disciplines. Participation was voluntary and anonymous. Before completing the survey, participants were informed of the research purpose and assured that their responses would be used solely for academic purposes.

3.2 Data Collection

Data were collected through an online survey distributed on Wenjuanxing, a leading survey platform in China. The questionnaire asked students to identify their perceived preferred conditions for highly engaging courses. The questionnaire consisted of three sections. The first section collected demographic information, including gender, year of study, and field of study. The second section contained multiple-choice questions probing students' perceptions regarding specific instructional elements (i.e., course content, instructional practices, assessment). The final section included one open-ended question that invited participants to report the most important factor(s) influencing classroom engagement. After data collection, responses were screened for completeness and validity. Questionnaires completed in an unusually short time or containing invalid responses in open-ended questions were excluded.

3.3 Data Analysis

To answer the first three research questions, descriptive statistical analysis was conducted using SPSS to analyze data from the multiple-choice questions in the second section of the questionnaire. Frequencies and percentages were calculated to quantify participants' choices for each item. For the fourth research question, content analysis was employed to examine responses to the open-ended questions. Responses were manually coded through repeated review to identify, categorize, and count recurring themes. Following thematic coding, factors perceived as key influences of student engagement were identified. The frequency and proportion of students reporting each factor were calculated separately for the humanities and STEM groups. These percentages were then compared to highlight between-group differences in perceived factor importance.

4 Results and Discussion

4.1 Course Content and Classroom Engagement

The results indicate that course content plays a crucial role in promoting classroom engagement. Alignment between course content and students' prior knowledge or personal interests (50.6%) suggests that meaningful connections enhance engagement. In addition, 59.04% of respondents preferred courses with gradually increasing yet attainable difficulty, highlighting the importance of balancing challenge and achievability. Practical relevance was also influential, with nearly 80% of students reporting that real-world applicability affected their engagement. These findings can be interpreted through SDT. When learning is meaningful and relevant, students are more likely to develop a sense of ownership, fostering intrinsic motivation and engagement. This finding confirms Deci and Ryan that learning environments supporting autonomy can enhance engagement[3].

4.2 Teacher Factors and Classroom Engagement

Teacher-related factors were also significant contributors to engagement. A majority of respondents (78.92%) reported that instructional style strongly influenced participation. The most preferred approach to addressing questions was explaining the reasoning process (51.81%), followed by guiding students through prompts (28.31%). Students favored instructors acting as facilitators (32.53%) or collaborative partners (30.72%). These findings confirm the importance of relatedness in SDT. Explaining reasoning encourages active learning, while guided questioning promotes interaction and engagement. This supports Reeve's view that autonomy-supportive teaching enhances engagement[9]. The preference for facilitators aligns with Klem and Connell, emphasizing the role of supportive teacher-student relationships[5].

4.3 Course Assessment and Classroom Engagement

Assessment was also an important factor, with over 80% of respondents reporting its impact on engagement. Students preferred detailed feedback explaining strengths and areas for improvement (50.6%) rather than simple scores. These findings correspond to the need for competence in SDT. Detailed feedback enables students to monitor progress and adjust learning strategies, strengthening their sense of competence. This suggests that effective feedback mechanisms are essential for sustaining engagement[6].

4.4 Disciplinary Variations in Classroom Engagement

The analysis reveals that both Humanities and STEM students prioritize the same four key factors: teacher-related factors, course content, individual engagement state, and classroom environment, with teacher-related factors being the most dominant (Figure 1). Teacher-related factors account for the highest proportion in both groups (67.5% for

humanities and 64.1% for STEM students). Humanities students place greater emphasis on content-related factors (46.8%) than STEM students (30.8%), while STEM students show slightly higher emphasis on classroom atmosphere and interaction (38.5% vs. 36.4%). Humanities students also report greater influences from individual factors (41.6%) than STEM students (33.3%). Overall, humanities students exhibit a meaning-driven engagement pattern, emphasizing relevance and value, while STEM students demonstrate a structure-dependent pattern, focusing on instructional methods and classroom structure. These findings confirm that disciplinary type influences engagement patterns[10][11]. However, they also show that teachers play a crucial role in student engagement regardless of disciplinary backgrounds.

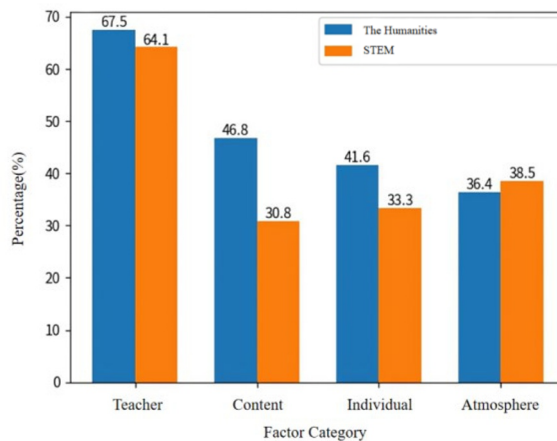


Fig. 1. Comparison of Factors Affecting Classroom Engagement by Discipline

5 Conclusion

This study examined factors perceived to influence student engagement in Chinese universities. The findings reveal that engagement is shaped by the interaction of course content, instructional practices, and assessment design, all of which influence the fulfillment of students' needs for autonomy, competence, and relatedness. Students are more engaged when learning materials are relevant and connected to prior knowledge, when teaching is supportive and humorous, and when assessments involve constructive feedback. Disciplinary differences were also identified, with humanities students demonstrating meaning-oriented engagement and STEM students showing a stronger preference for structured learning environments. The study extends SDT-based engagement research to the Chinese context and highlights the importance of aligning teaching strategies with both psychological needs and disciplinary characteristics. It offers practical guidance for designing student-centered learning environments that promote sustained engagement and deeper learning outcomes. However, several limitations should be noted. The use of non-random sampling limits applicability, and reliance on self-reported data may result in subjectivity. Future research could combine

perceptual data with behavioral indicators, such as classroom participation records or learning analytics, to obtain a more comprehensive understanding. It could also adopt longitudinal designs to better examine causal relationships and the long-term effects of instructional interventions on student engagement.

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