

A Study on the Correlation between English Academic Performance and Autonomous Learning Ability of Junior High School Students: A Case Study of Donghu School

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Abstract: Autonomous learning is a key competence of the China English Curriculum Standards (2022 Edition). The present research explores the connection between English autonomous learning skills and the academic achievement of 200 ninth graders in Donghu School (Sichuan Province). Correlation analysis shows a very high positive correlation with a validated scale and two standardized test scores. Performance differences can be explained through learning motivation and self-efficiency. Interviews also reveal that the best-performing students are more capable of goal-setting in learning, self-monitoring, and strategy adjustment. The current work gives an example of empirical evidence of self-regulated learning theory in ninth-grade English classes and gives practical recommendations on how to maximize teaching and improve outcomes of learning under the policies of Double Reduction.

Keywords: Correlation study; Autonomous learning ability; English academic achievement; Ninth-grade students

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1. Introduction

Autonomous learning is one of the main concerns in educational issues. As stated by the Chinese English Curriculum Standards, it is important to develop the skills of the students and their autonomous learning ability to achieve lifelong learning. The paper investigates the association between autonomous learning capability and English academic results of ninth-grade pupils of Donghu School. The research operationalizes autonomous learning using four dimensions that stem from Pintrich's Motivated Strategies for Learning Questionnaire based on Zimmerman's Self-Regulated Learning Theory (1990): cognitive strategies, metacognitive strategies, resource management strategies, and learning motivation and attitude^[1-2]. The study is a mixed-method design, with quantitative questionnaires and semi-structured interviews. Descriptive and correlation analyses are done through SPSS. This study gives empirical data on the relationships between these four dimensions and English achievement, gives diagnostic information about the state of autonomous learning of students, and assists teachers in modifying instructions in line with the Double Reduction Policy.

2. Literature review

2.1. Theoretical basis

2.1.1. Self-regulated learning theory

Self-Regulated Learning (SRL Theory) is a theory of how learners regulate and monitor their own learning. As defined by Zimmerman, SRL means that the students are metacognitive, motivated, and active in their learning process^[2]. A self-regulated learner will establish goals, choose strategies, monitor progress, and evaluate results. The present work uses the four-dimensional model developed by Pintrich based on the Motivated Strategies for Learning Questionnaire (MSLQ): cognitive strategies, metacognitive strategies, resource management strategies, and learning motivation and attitude. It is these dimensions that form the working basis of the questionnaire used in this study^[3].

2.1.2. Constructivist learning theory

The Constructivist Learning Theory states that learners construct knowledge during their learning process and use previous experience and social interaction to guide learning^[4]. The learning process is the creation of meaning, rather than passive consumption. This theory suggests that independent learning capacity is acquired by engaging in meaningful activities actively and is not brought about by passive training. It explains epistemologically the connection between autonomous learning and academic performance.

2.1.3. Humanistic learning theory

Humanistic Learning Theory (Maslow and Rogers) focuses on the emotional state of the learner, intrinsic motivation, and self-realization. Positive self-perception and safety in terms of emotions are necessary conditions of effective learning. Cheng states that the theory stresses the importance of interest, self-efficacy, and emotional security in autonomous learning as well as the cognitive and behavioral components considered by SRL^[5].

2.1.4. Logical relationship among the three theories

The SRL Theory offers the structural model of autonomous learning. The Constructivist Theory describes the development of this capability within the process of active involvement. Humanistic Theory provides an emotional basis (intrinsic motivation, self-efficacy). All these theories provide a multi-layered paradigm of analysis of autonomous learning as a holistic ability.

2.2. Domestic and International Studies on the Correlation

Studies carried out internationally have established that the metacognitive and affective factors are the core of self-regulated learning and academic performance^[4, 6]. Nonetheless, in the majority of these studies, the researchers examine Western or AI-assisted settings, and there are very limited case studies in Chinese suburban schools. In domestic research, it is found that high-achieving students use more self-regulated strategies, but most depend on rote learning and do not plan or monitor themselves^[7]. The current study addresses this gap by offering a contextualized case study of Donghu School, which is a suburban school located in Sichuan.

3. Methodology

3.1. Research questions

The paper explores the correlation between English academic achievement and autonomous learning skills of the 9th-grade students at Donghu School. The two research questions that are being answered are: (1) What is the general level of autonomous learning ability in four dimensions (cognitive strategies, metacognitive strategies, resource management strategies, learning motivation and attitude)? (2) Are there significant correlations between English academic performance

and every dimension of autonomous learning ability?

3.2. Research object

The participants were 200 ninth-grade students (age: 14–16) of Donghu School. Each of the 200 questionnaires was completed properly (100 percent response rate and effective rate).

3.3. Research methods

The mixed-methods design was applied whereby the questionnaire survey served as the main approach, and the semi-structured interviews were used as a sub-approach to complement the results of quantitative studies.

4. Data analysis

4.1. Questionnaire results

A total of 200 valid questionnaires were gathered (100 percent response rate). The Cronbach alpha was 0.960 with subscale alpha values of 0.866–0.893, which means that there is high internal consistency. Factorability is supported by KMO = 0.965 and Bartlett test $\chi^2 = 2751.141$ ($df = 171$, $P < 0.001$). The principal component analysis identified a single factor that accounted for 58.6 percent of the variance, where all factor loadings were greater than 0.69, which indicates the presence of a coherent underlying construct.

Correlation analysis (Pearson, $N = 200$) found that the four aspects of autonomous learning capacity had a significant positive correlation with English academic achievement ($P < 0.01$). Correlation coefficients were: metacognitive strategies ($r = 0.866$), cognitive strategies ($r = 0.861$), resource management strategies ($r = 0.856$), and learning motivation and attitude ($r = 0.800$). The high inter-correlation between the four dimensions ($r = 0.732$ - 0.827) indicates that they work as a unit.

4.2. Interview Results

Six students (two high-achieving, two medium-achieving, two low-achieving) were interviewed through semi-structured interviews based on stratified sampling.

The top-performing students showed good metacognitive skills (weekly planning, review of mistakes, strategy change), positive cognitive skills (root-affix memorization, contextual guessing), resource management (app use, asking someone to help), and intrinsic motivation (fascination with English-medium media).

The poor-performing students depended on rote memorization, lacked study plans, failed to notice errors, shunned challenges, and were extrinsically motivated (exam pressure alone).

The qualitative results confirm the quantified correlations, namely that metacognitive strategies have the strongest correlation with achievement and strategic flexibility is what can be used to differentiate between high-achievers and low-achievers.

5. Findings and Discussion

5.1. Research findings

Each of the four dimensions of autonomous learning capability had a high positive correlation with English academic performance ($r = 0.800$ – 0.866), and metacognitive strategies had the highest level of correlation ($r = 0.866$). These dimensions are very intercorrelated ($r = 0.732$ – 0.827), which means that they work as a package. Students with high achievement can successfully plan, monitor, and change their strategies and intrinsically motivate themselves, whereas students with low achievement do not have such metacognitive behavior and use passive learning and memorization.

These results can be compared with the earlier domestic research ^[4, 7–8]. Metacognitive strategies are by far the best predictor of success. The qualitative results also help to explain why strategic flexibility is a major discriminator. Theoretically, the findings validate an integrated model of Self-Regulated Learning, Constructivist Learning, and Humanistic Learning theories. In practice, teaching students metacognitive skills takes precedence ^[9].

5.2. Solutions

To the students: Come up with weekly study schedules, maintain error journals, apply active cognitive techniques (e.g., root-affix recall, contextual guessing), and ask for assistance in order ^[10].

To teachers: Give clear metacognitive instruction, develop intrinsic motivation by autonomy and positive feedback, and do not use public ranking.

The school should provide differential support: planning templates and self-questioning checklists to low-achievers, peer tutoring and enrichment activities to high-achievers, and small group coaching to medium-achievers ^[11].

5.3. Limitations

The sample is restricted to a single school (200 ninth-graders), which compromises the generalizability of the study. The data are based on self-report questionnaires, which can be prone to social desirability bias, and such confounding factors as family background or teacher quality were not controlled. Future studies must comprise more than one school, classroom-based observation, and other data sources. The strong correlations between the four dimensions imply that there is a need to examine the discriminant validity further.

6. Conclusion

The present paper has established a significant positive relationship between autonomous learning skills and English academic achievement in the ninth-grade learners of Donghu School. The strongest relationship was between metacognitive strategies ($r = 0.866$), followed by cognitive and resource management strategies. In high-achieving students, there was metacognitive awareness and intrinsic motivation, whereas in low-achieving students there was dependence on external control. These results are consistent with the inclusion of metacognitive strategy training as part of daily instruction ^[12]. Future studies must be more varied, including various samples, experimental designs, and longitudinal data, in order to determine causality and follow developmental changes in autonomous learning ability.

Disclosure statement

The author declares no conflict of interest.

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