

DEVELOPMENT GUIDELINES FOR LEARNER AUTONOMY AMONG PRESCHOOL EDUCATION STUDENTS AT GUANGXI TALENT INTERNATIONAL COLLEGE*

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Abstract

The objectives of this research were: 1) to study the level of learner autonomy, and 2) to suggest the development guidelines of learner autonomy for students' program in preschool education at Guangxi Talent International College. The sample group were 250 students who enrolled in the faculty of preschool education students in Guangxi Talent International College. Research instruments included: 1) 5-point rating scale questionnaire, and 2) structured interview. Data analysis by using percentage, mean, standard deviation and content analysis.

The results were found that: 1) The learner autonomy for students' program in preschool education in five aspects was at a high level. Considering the results from the highest to the lowest mean were as follows: the highest mean was Learning resources, followed by Learning strategies, and Learning environment, respectively, and learning motivation was the lowest mean. And 2) The guidelines for the development of learner autonomy for students' program

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in preschool education at Guangxi Talent International College, China, are a multiple approach. The researcher has analyzed the content as follows: 1) Teachers should establish a learning motivation monitoring mechanism, conduct regular student surveys, integrate post-scenario teaching, and strengthen students' professional cognition and learning motivation. 2) Construct a training system combining stratified teaching and personalized guidance, teach practical learning methods, and guide students to formulate personalized study plans. 3) Develop an implementation plan for cultivating integrated professional knowledge, sort out the course knowledge framework, and guide students to integrate cross-course knowledge. 4) Coordinate college resources to upgrade the professional training center, establish a resource quality evaluation mechanism, integrate and share high-quality learning resources, and compile study manuals. 5) Formulate educational APP application guidelines, screen suitable software, carry out practical demonstrations and special training, and help students master core functions. 6) Optimize the campus teaching environment to create immersive scenarios, establish an environmental quality monitoring system, and adopt interactive and immersive methods to optimize the classroom atmosphere. 7) Expand the scale of off-campus internship bases, establish a practical opportunity guarantee mechanism, increase practical training hours, and strive for more internship and observation opportunities for students. 8) Construct a diversified assessment system, establish a learning effect tracking mechanism, strengthen practical teaching and knowledge application, and improve students' professional practical abilities.

Keywords: Learner Autonomy, Learning motivation, Learning strategies, Learning resources, Learning outcomes.

Introduction

Against the backdrop of national vocational education reform and the continuous upgrading of preschool education, higher vocational preschool education is undergoing a critical transformation from single skill training to comprehensive professional competence cultivation. Guided by cognitive and social cognitive learning theories, learner autonomy and discovery learning - proposed by Jerome Bruner (1961), have become the core of its teaching reform, as they focus on the "independent exploration - active construction" model that is crucial for cultivating qualified preschool educators. The growing social demand for high-quality preschool talents has exposed obvious flaws in traditional teaching modes, such as students' insufficient learning initiative and the misalignment between autonomous learning ability and actual professional needs. For preschool education majors, effective autonomous learning is not only an essential ability but also aligns with the profession's inherent requirement of lifelong learning (Liu Xiaoli et al., 2023), laying a foundation for their long-term career development.

Autonomous learning traces its theoretical origin to Dewey's "learning by doing" theory, with its systematic measurement and research originating from Zimmerman's self-regulated learning theory in the 1980s. Over the years, autonomous learning research has evolved from a process-oriented paradigm to intelligent transformation driven by the mobile Internet, with platforms like Superstar Learning and Rain Classroom providing personalized learning support for preschool education majors. In China, the exploration of learner autonomy in higher vocational preschool education began with relevant teaching practices amid the mid-2000s vocational education reform, and domestic research has advanced steadily with scholars proposing models, building support systems and developing cultivation strategies. Despite growing research on learner autonomy, limited studies examine its development within preschool education programs

in Chinese vocational colleges. Specifically, three key bottlenecks persist: the disconnection between theory and practice leading to passive learning, insufficient in-depth application of intelligent teaching tools lacking personalized and data support, and an assessment system overemphasizing quantitative indicators while ignoring qualitative professional abilities.

This study constructs a "autonomous learning + professional scenario" cultivation model for higher vocational preschool education majors, clarifies the theoretical-practical transformation path via a closed loop, breaks the limitations of traditional management and evaluation, and links autonomous learning content with industry demands. It provides replicable solutions for higher vocational preschool education reform and new empirical cases for the digital-age application of self-regulated learning theory.

Objectives

1. To study the level of learner autonomy for students' program in preschool education at Guangxi Talent International College.
2. To suggest the development guidelines of learner autonomy for students' program in preschool education at Guangxi Talent International College.

Literature Review

Theory of learner autonomy: B. F. Skinner's Operant Conditioning Theory is a core theoretical basis for exploring learner autonomy, with its core concept of "reinforcement" playing a crucial role in the development of autonomous learning behaviors. Reinforcement refers to the process in which environmental stimuli strengthen or weaken learners' learning behaviors. Skinner argues that learners influenced by reinforcement are more likely to adjust their learning behaviors according to environmental feedback, form effective learning strategies, and maintain stable learning motivation. This theory points out that

learners can enhance their learner autonomy by recognizing reinforcement cues, utilizing resources with reinforcement value, and adapting to changes in environmental reinforcement associations, thereby promoting the achievement of learning goals.

Jerome Bruner's Discovery Learning complements Skinner's perspective by focusing on the active role of learners in the learning process, explaining how active exploration and knowledge construction support the development of autonomous learning behaviors. Bruner emphasizes that learners are not passive recipients of knowledge but active constructors who acquire knowledge through independent exploration and cognitive iteration. Integrating the perspectives of the two theories, learner autonomy is understood as the interaction between motivational reinforcement and cognitive engagement.

Concept of learner autonomy: Learner autonomy refers to the core competence of learners who demonstrate initiative and take self-responsibility in the learning process. They do not rely on external guidance and can independently control the entire learning process. Complementing this, recent international studies further explore AI's role in shaping autonomous learning: Joseph Sifakis (2025), a Turing Award winner, proposes an "autonomous learning system" that leverages AI to support lifelong learning needs, while warning that the role of human will in AI-augmented learning remains under-researched, a critical gap for preschool education majors who need to balance technical assistance and independent thinking.

Core Dimensions of Learner Autonomy: Based on the above conceptual definition and existing empirical research, this study clarifies the conceptual framework of learner autonomy, which includes five core interrelated dimensions.

The research framework is as follows:

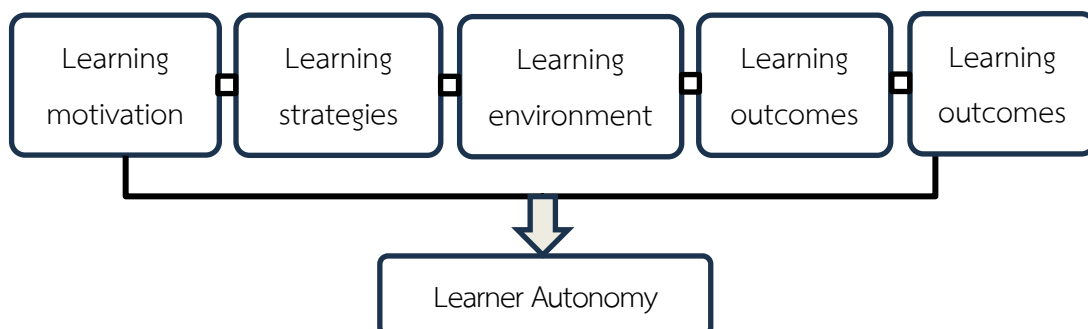


Figure 1.1 Research Framework

Empirical evidence indicates that self-efficacy and metacognitive skills are core competencies influencing learning outcomes and engagement, while digital literacy, especially the ability to utilize online resources like MOOC and microcourse, has become increasingly critical in blended learning environments (Liu Xiaoli, 2023; Jun Huang and Dian Yu, 2022). Although innovative problem-solving is often relatively weaker, it is widely recognized as strategically important for adapting to teaching model reforms and integrating knowledge across disciplines (Jie Zhu et al., 2019).

In summary, drawing on existing literature and the practical context of modern education, this study conceptualizes learner autonomy as comprising five core dimensions: learning motivation, learning strategies, learning resources, learning environment, learning outcomes, which serve as the analytical foundation for the study.

Methodology

Objective 1: To study the level of learner autonomy for students' program in preschool education at Guangxi Talent International College.

The Population / Sample Group

The Population: The population is 12,000 students at Guangxi Talent International College. Target population for this study is the 706 full-time students enrolled in the college's preschool education program, which is the key group aligned with the research objectives.

The Sample Group: For the questionnaire, the sample group consists of 250 students, selected from the 706 preschool education students by simple random sampling. The sample size is determined following Krejci and Morgan's method (1970), which recommends 250 samples for a population of 706, so 250 is set to ensure representativeness.

Research Instruments

Questionnaire: The instrument used to collect data for objective one, which aimed to study the current situation of learner autonomy among preschool education students at Guangxi Talent International College, was a 5-point rating scale questionnaire. The questionnaire was designed based on five aspects of learner autonomy: 1) learning motivation, 2) learning strategies, 3) learning resources, 4) learning environment, 5) learning outcomes. It was divided into two parts: Part 1 is the personal information of respondents by gender and major; Part 2 is the current situation of learner autonomy of preschool education students at Guangxi Talent International College.

Constructing a questionnaire process

The questionnaire construction process is as follows: 1) Review and analyze literature, concepts, theories and research related to learner autonomy; 2) Develop the questionnaire on learner autonomy of preschool education students and submit it to thesis advisors for review and revision; 3) Three experts examined the Index of Objective Congruence (IOC); IOC above 0.6 indicates acceptable validity, and this questionnaire ranged from 0.67 to 1.00; 4) Revise the questionnaire based on expert suggestions; 5) Distribute to 30

students for a pilot test, and Cronbach's Alpha Coefficient was 0.986, higher than 0.8, indicating good reliability; 6) Apply the questionnaire to 250 preschool education students at Guangxi Talent International College.

Data Collection

The data collection procedure for Objective 1, which aimed to study the current situation of learner autonomy among preschool education students at Guangxi Talent International College, is as follows: 1) The researcher distributed the questionnaire to 250 students enrolled in the college's preschool education faculty; 2) Waited for 15 days to collect the questionnaires from the sample group; 3) Checked the completeness of the collected questionnaires, with all 250 questionnaires retrieved, representing a 100% recovery rate; 4) Conducted statistical analysis on the collected data for the research.

Data Analysis

In this research, the researcher analyzed the data using a statistical software package as follows: 1) The personal information of the respondents was analyzed by frequency and percentage, classified by gender; 2) The current situation of learner autonomy in five aspects (learning motivation, learning strategies, learning resources, learning environment, and learning outcomes) was analyzed by mean and standard deviation, and data interpretation for the average value is based on Rensis Likert (1932): 4.50-5.00 refers to the highest level, 3.50-4.49 refers to high level, 2.50-3.49 refers to medium level, 1.50-2.49 refers to low level, and 1.00-1.49 refers to the lowest level.

Objective 2: To suggest the development guidelines of learner autonomy for students' program in preschool education at Guangxi Talent International College.

The Key information

The interviewee: The interviewee in this research was 5 experts from the college. The qualifications of the interviewee are as follows: 1) at least 5

years of work experience in student's preschool education in university, 2) received a certificate in the field of preschool education, 3) graduated with a master's degree or above. 4) Position diversity: They cover full-time teaching, academic guidance, and training center management, providing comprehensive perspectives for formulating learner autonomy development guidelines.

Research Instruments

Structured Interview: The instrument used to collect data for objective two, which aimed to propose enhancement guidelines for learner autonomy among preschool education students at Guangxi Talent International College, was a structured interview designed based on the five dimensions of learner autonomy (learning motivation, learning strategies, learning resources, learning environment, and learning outcomes). The structured interview was divided into two parts: Part 1 covers interviewees' personal information, and Part 2 includes questions and suggestions for the enhancement guidelines.

Constructing a structured interview process

The construction process of the structured interview is as follows: 1) Review the current situation and select the issue which has a mean score at medium or lower level. And 2) Construct the structured interview about development guidelines for learner autonomy of preschool education students in Guangxi Talent International College.

Data Collection

The data collection procedure for Objective 2, which aimed to propose enhancement guidelines for learner autonomy among preschool education students at Guangxi Talent International College, is as follows: 1) The researcher made an appointment with the experts; 2) The researcher conducted one-on-one interviews with 5 experts via an online platform or face-to-face, depending on the experts' convenience.

Data Analysis

The structured interview about the enhancement guidelines of learner autonomy of preschool education students in Guangxi Talent International College was analyzed by content analysis.

Results

Objective 1: To study the level of learner autonomy for students' program in preschool education at Guangxi Talent International College, China.

Table 1 Mean and standard deviation of learner autonomy for students' program in preschool education in five aspects (n = 250)

Learner Autonomy for Students' Program in Preschool Education at Guangxi Talent International College		$\bar{X}$	S.D.	Level	Ranking
1	Learning motivation	4.01	0.53	high	5
2	Learning strategies	4.31	0.51	high	2
3	Learning resources	4.41	0.61	high	1
4	Learning environment	4.29	0.61	high	3
5	Learning outcomes	4.12	0.60	high	4
Total		4.23	0.60	high	

According to table 4.2, found that the learner autonomy for students' program in preschool education in five aspects was at a high level ($\bar{X}$ = 4.23, S.D. = 0.60). Considering the results from the highest to the lowest mean were as follows: the highest mean was Learning resources (= 4.41, S.D. = 0. $\bar{X}$ 61), followed by Learning strategies ($\bar{X}$ = 4.31, S.D. = 0.51), and Learning environment ($\bar{X}$ = 4.29, S.D. = 0.61), respectively, and learning motivation was the lowest

mean

($\bar{X} = 4.01$, S.D. = 0.53).

Objectives 2: To suggest the development guidelines of learner autonomy for students' program in preschool education at Guangxi Talent International College

The guidelines for the development of learner autonomy for students' program in preschool education at Guangxi Talent International College, China, are a multiple approach. The researcher has analyzed the content as follows: 1) Teachers should establish a learning motivation monitoring mechanism, conduct regular student surveys, integrate post-scenario teaching, and strengthen students' professional cognition and learning motivation. 2) Construct a training system combining stratified teaching and personalized guidance, teach practical learning methods, and guide students to formulate personalized study plans. 3) Develop an implementation plan for cultivating integrated professional knowledge, sort out the course knowledge framework, and guide students to integrate cross-course knowledge. 4) Coordinate college resources to upgrade the professional training center, establish a resource quality evaluation mechanism, integrate and share high-quality learning resources, and compile study manuals. 5) Formulate educational application guidelines, screen suitable software, carry out practical demonstrations and special training, and help students master core functions. 6) Optimize the campus teaching environment to create immersive scenarios, establish an environmental quality monitoring system, and adopt interactive and immersive methods to optimize the classroom atmosphere. 7) Expand the scale of off-campus internship bases, establish a practical opportunity guarantee mechanism, increase practical training hours, and strive for more internship and observation opportunities for students. 8) Construct a diversified assessment system, establish a learning effect tracking mechanism, strengthen practical

teaching and knowledge application, and improve students' professional practical abilities.

Discussion

Objectives 1: The level of learner autonomy for students' program in preschool education at Guangxi Talent International College.

The results found that the level of learner autonomy for students in the preschool education program at Guangxi Talent International College, China, was at a high level. According to this study, the five dimensions ranked from highest to lowest were: learning resources, learning environment, learning strategies, learning outcomes, and learning motivation (the lowest). The relatively low motivation was due to students' lack of initiative in understanding industry trends, accessing professional literature, and solving learning problems independently, which supports Chen Tao (2022) that weak motivation results in passive learning. This study further highlights that even in practice-oriented preschool education programs, intrinsic motivation remains a bottleneck, as vocational students' focus on skill acquisition may overshadow proactive professional exploration, requiring the integration of practical training and motivation cultivation. In contrast, students scored highest in learning resources by following professional online platforms and using kindergarten cases, consistent with Jie Zhu, Ping Chen and Wenjun Jia (2019) that resources are fundamental to autonomous learning, though teacher guidance is still needed for effective use. This gap between resource availability and utilization efficiency indicates that targeted guidance is necessary to maximize the value of learning resources for autonomous learning.

Learning motivation was at a high level, as students-maintained enthusiasm, clear goals, and improved professional skills, which is supported by Liu Xiaoli (2023), Jun Huang and Dian Yu (2022), and Jen-Hung Wang and Wen-

Han Zhu (2024).

Learning strategies were at a high level, with students mastering knowledge systematically, identifying weaknesses, and applying theory to practice effectively, supported by Liu Xiaoli (2023), Chen Tao (2022), Jun Huang and Dian Yu (2022), and Jie Zhu et al. (2019).

Learning environment was at a high level, with students enjoying a supportive, inclusive atmosphere with peer collaboration and quality learning spaces, which aligns with Haimin Mi and Sheng Guo (2025) that a positive environment enhances autonomous learning.

Learning outcomes were at a high level, reflecting students' strong autonomous learning and professional competence, supporting Stefan Heber et al. (2024) that structured learning and practice improve learning outcomes. These results show that the interaction between environmental reinforcement (Operant Conditioning Theory) and cognitive engagement (Discovery Learning Theory) drives the high overall level of learner autonomy.

Objectives 2: To suggest the development guidelines of learner autonomy for students' program in preschool education at Guangxi Talent International College, China.

The guidelines for the development of learner autonomy for students in the preschool education program at Guangxi Talent International College, China, are a multiple approach derived from teacher interview results, designed to address the bottlenecks and leverage the strengths identified in the study's findings. The researcher has analyzed the content as follows: 1) Teachers should establish a learning motivation monitoring mechanism, conduct regular student surveys, integrate post-scenario teaching, and strengthen students' professional cognition and learning motivation. 2) Construct a training system combining stratified teaching and personalized guidance, teach practical learning methods, and guide students to formulate personalized study plans. 3) Develop an

implementation plan for cultivating integrated professional knowledge, sort out the course knowledge framework, and guide students to integrate cross-course knowledge. 4) Coordinate college resources to upgrade the professional training center, establish a resource quality evaluation mechanism, integrate and share high-quality learning resources, and compile study manuals. 5) Formulate educational APP application guidelines, screen suitable software, carry out practical demonstrations and special training, and help students master core functions. 6) Optimize the campus teaching environment to create immersive scenarios, establish an environmental quality monitoring system, and adopt interactive and immersive methods to optimize the classroom atmosphere. 7) Expand the scale of off-campus internship bases, establish a practical opportunity guarantee mechanism, increase practical training hours, and strive for more internship and observation opportunities for students. 8) Construct a diversified assessment system, establish a learning effect tracking mechanism, strengthen practical teaching and knowledge application, and improve students' professional practical abilities.

These guidelines are corroborated by abundant empirical studies, with each key component interpreted through existing literature and the study's theoretical framework (Operant Conditioning Theory and Discovery Learning Theory) to avoid mere citation without analysis. The focus on learning motivation monitoring and scenario-based teaching aligns with the research of Jen-Hung Wang and Wen-Han Zhu (2024), who emphasized that a positive learning environment and effective teaching communication positively influence learning motivation and attitude - this guideline directly addresses the study's finding that learning motivation, though high, is the lowest-ranked dimension, using scenario-based teaching (rooted in practical preschool contexts) to strengthen intrinsic motivation, a nuance not fully explored in Jen-Hung Wang and Wen-Han Zhu's (2024) general research. The stratified teaching and personalized guidance system is consistent with the three-level framework of

learner autonomy proposed by Alexey Danilenko et al. (2018), complements Tianyu Wang and Dong Ge (2025) who verified the importance of personalized resource matching for autonomous learning support, and aligns with I Gede Suddarth et al. (2022) showing that blended learning and practical training effectively improve learner autonomy and professional practical abilities. Specifically, this guideline integrates stratified teaching with practical learning methods to address individual differences in students' autonomous learning levels, bridging the gap between theoretical frameworks and vocational education practice. Collectively, these alignments-grounded in the interaction of environmental reinforcement (Operant Conditioning Theory) and cognitive engagement (Discovery Learning Theory) - fully validate the scientific and feasibility of the entire development framework, linking the interview-derived guidelines to theoretical insights and providing a solid theoretical basis for cultivating learner autonomy in preschool education programs.

Theoretical Implications: This study extends Operant Conditioning Theory and Cognitive Discovery Theory to vocational preschool education contexts, enriching the multidimensional framework of learner autonomy proposed by Chen Tao (2022) and Liu Xiaoli (2023) by identifying learning motivation as a bottleneck in high-level autonomy contexts. It also links theoretical frameworks to practical guidelines, demonstrating how classical learning theories and multidimensional models can be translated into vocational education practice, providing a solid theoretical basis for future research on learner autonomy cultivation in specialized fields.

Recommendation

1. For College: Embed learner autonomy cultivation into the preschool education curriculum with grade-specific objectives and assessment standards. Upgrade the training center and build an integrated resource library, expand

internship bases for a "campus + kindergarten" dual platform. Adopt a diversified evaluation system, and apply intelligent analytics to track autonomous learning for data-driven program adjustment.

2. For Administrators: Formulate special measures and earmark funds, clarify department responsibilities for autonomy cultivation implementation. Optimize campus environment and build immersive scenarios with a quality monitoring system. Promote digital-integrated autonomous learning, popularize suitable APPs/platforms and build an online learning community. Establish a long-term monitoring mechanism, track learning motivation/strategies and propose targeted suggestions.

3. For Teachers: Adopt scenario/case teaching with real kindergarten scenarios, guide independent inquiry and cooperative learning. Set up learning files for stratified teaching, teach practical learning methods and guide personalized study plans. Establish a motivation monitoring mechanism, stimulate intrinsic drive via career sharing and positive evaluation. Guide effective resource use, connect classroom teaching with practical training to boost professional abilities.

4. For Students: Foster a correct professional outlook, clarify learning goals to enhance intrinsic motivation. Master scientific learning strategies, form preview-thinking-review habits and build systematic knowledge frameworks. Proactively use on-campus and off-campus resources, follow professional accounts and share experiences online. Participate in kindergarten internships/design, improve practical abilities through continuous reflection and summary.

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