



**The Influencing Factors of Instructional Innovation Capability of
Newly Recruited Teachers in Jiangsu Province**

PAN YIFAN
6617195708

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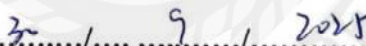


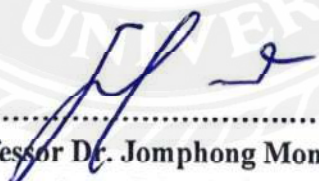
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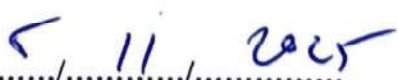
PAN YIFAN

This Independent Study Has Been Approved as a Partial Fulfillment of the
Requirements for the Degree of Master of Business Administration

Advisor.....
(Dr. Ma Yu)

Date:.....

.....
(Associate Professor Dr. Jomphong Mongkhonvanit)
Dean, Graduate School of Business

Date..........

Title: The Influencing Factors of Instructional Innovation Capability of Newly Recruited Teachers in Jiangsu Province
Researcher: PAN YIFAN
Degree: Master of Business Administration
Major: Education Management

Advisor:

Ma Yu
(Dr. Ma Yu)

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ABSTRACT

In response to China's ongoing educational modernization and the increasing emphasis on pedagogical innovation, newly recruited teachers have emerged as key agents in driving instructional reform. However, their instructional innovation capability is often shaped by psychological and contextual factors. This study aims to research the influencing factors of instructional innovation capability of newly recruited teachers in Jiangsu Province, with a particular focus on three dimensions derived from Self-Determination Theory: teaching autonomy, teaching competence, and interpersonal support.

A quantitative research design was adopted. Data were collected from 237 newly recruited teachers working in public primary and secondary schools across Jiangsu Province using a structured questionnaire consisting of 20 items. Each psychological factor was measured with five Likert-scale items, and instructional innovation capability was treated as the dependent variable. Statistical analyses included descriptive statistics, Pearson correlation, and multiple regression analysis.

The results indicated that all three psychological factors—teaching autonomy, teaching competence, and interpersonal support—had significant positive correlations with instructional innovation capability. Among them, teaching competence demonstrated the strongest predictive power ($\beta = 0.278$), followed by teaching autonomy ($\beta = 0.243$) and interpersonal support ($\beta = 0.234$). The regression model explained 21.9% of the variance in innovation capability, suggesting that psychological enablers play a critical role in shaping early-career teachers' instructional behaviors.

The study concludes that enhancing teaching competence and autonomy, while fostering a supportive interpersonal environment, is essential for promoting instructional innovation among newly recruited teachers. Practical recommendations

include establishing bounded autonomy systems, embedding competence-oriented training in induction programs, and institutionalizing peer collaboration structures. These findings offer actionable insights for school administrators and policymakers aiming to cultivate a sustainable culture of innovation in education.

Keywords: instructional innovation capability, newly recruited teachers, teaching autonomy, teaching competence, interpersonal support, Self-determination Theory, Jiangsu Province



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The seal of Siam University is a large, circular emblem in the background. It features a central shield with a crown on top, surrounded by a wreath. The shield is flanked by two lions. The entire emblem is encircled by a border containing the text 'SIAM UNIVERSITY' in English and Thai script.

PAN YIFAN

DECLARATION

I, PAN YIFAN, hereby declare that this Independent Study entitled “The Influencing Factors of Instructional Innovation Capability of Newly Recruited Teachers in Jiangsu Province” is an original work and has never been submitted to any academic institution for a degree.

PAN YIFAN
Aug 18, 2025



CONTENTS

ABSTRACT.....	I
ACKNOWLEDGEMENT	III
DECLARATION	IV
CONTENTS.....	V
LIST OF TABLES.....	VII
LIST OF FIGURES	VIII
Chapter 1 Introduction	1
1.1 Background of the Study	1
1.2 Questions of the Study.....	3
1.3 Objectives of the Study	3
1.4 Scope of the Study.....	4
1.5 Significance of the Study.....	4
1.6 Definition of Key Terms	5
Chapter 2 Literature Review	6
2.1 Self-Determination Theory.....	6
2.2 Teaching Autonomy	7
2.3 Teaching Competence	7
2.4 Interpersonal Support	8
2.5 Instructional Innovation Capability.....	9
2.6 Newly Recruited Teachers in China.....	10
2.7 Conceptual Framework	11
Chapter 3 Research Methodology.....	12
3.1 Research Design	12
3.2 Population and Sample	12
3.3 Hypothesis	12
3.4 Research Instrument	13
3.5 Reliability and Validity Analysis of the Scale.....	15
3.5.1 Reliability Analysis	15

3.5.2 Validity Analysis	16
3.6 Data Collection	16
3.7 Data Analysis	16
Chapter 4 Findings and Discussion	18
4.1 Demographic Characteristics of Participants	18
4.2 Descriptive Statistics of Variables	19
4.2.1 Teaching Autonomy	19
4.2.2 Teaching Competence	21
4.2.3 Interpersonal Support	22
4.2.4 Instructional Innovation Capability	23
4.3 Correlation Analysis	24
4.4 Regression Analysis	25
4.5 Discussion	27
4.5.1 Impact of Teaching Autonomy on Instructional Innovation Capability	27
4.5.2 Impact of Teaching Competence on Instructional Innovation Capability	29
4.5.3 Impact of Interpersonal Support on Instructional Innovation Capability	30
Chapter 5 Conclusion and Recommendation	32
5.1 Conclusion	32
5.2 Recommendation	32
5.2.1 Based on Teaching Autonomy	33
5.2.2 Based on Teaching Competence	33
5.2.3 Based on Interpersonal Support	33
5.3 Further Study	34
5.3.1 Broadening the Educational Contexts	34
5.3.2 Utilizing Longitudinal and Mixed-Methods Approaches	34
5.3.3 Investigating Mediators and Moderators in the Innovation Process	35
References	36
Appendix	38

LIST OF TABLES

Table 3.1 Design of Teaching Autonomy Measurement Items	13
Table 3.2 Design of Teaching Competence Measurement Items	14
Table 3.3 Design of Interpersonal Support Measurement Items	14
Table 3.4 Design of Instructional Innovation Capability Measurement Items.....	14
Table 3.5 Reliability Analysis.....	15
Table 3.6 Validity Analysis	16
Table 4.1 Demographic Characteristics of Participants.....	18
Table 4.2 Descriptive Statistical Analysis of the Dimensions of Teaching Autonomy	19
Table 4.3 Descriptive Statistical Analysis of the Dimensions of Teaching Competence	21
Table 4.4 Descriptive Statistical Analysis of the Dimensions of Interpersonal Support	22
Table 4.5 Descriptive Statistical Analysis of Instructional Innovation Capability.....	23
Table 4.6 Pearson Correlation.....	24
Table 4.7 Regression Analysis Results.....	26

LIST OF FIGURES

Figure 2.1 Conceptual Framework	11
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Chapter 1 Introduction

1.1 Background of the Study

With the constant educational reform and modernization happening to China, improving instructional quality and supporting new educational trends has become major goals for both the state level and the provincial level authority. The MOE repeatedly stresses the necessity to create a good-quality teaching staff that can combine new technologies, learner-focused methods, and research-justified techniques to improve the result of learning. newly recruited teachers as key agents of change and innovation in the classroom as part of this. They should be able to adopt and effectively execute innovative teaching methods both for their personal development as well as to improve the overall quality of school-level teaching (Ministry of Education, 2021).

The "14th Five-Year Plan for National Education Development" stresses the cultivation of teachers' professional autonomy, the reinforcement of capacity building for classroom reform, and the promotion of innovative pedagogical at all levels of school levels. following this national direction, the “ Guiding Opinions on Strengthening Teacher Workforce Construction in Jiangsu Province (2021-2025)” stipulate some concrete practices for supporting newly employed teachers such as assigning mentors, setting up classroom observation schedules, and engaging in instructional demonstration. The contests aren't performance assessments only – they're mixed in with school-professional improvement programs, in which the idea is to find, keep at arm's length, and keep up the newly strong teachers.

But despite these kinds of policies and procedures for support, new teachers that are in the first three years of their teaching are often subject to many forces that can be stifling or discouraging to innovation. It has pressure like adjusting to new school culture, dealing with classroom management problem and following institutional norms that stops experiment. In addition, since teachers often get assessed by teaching competitions and standardized observation rubrics which also involve student performance output, some would become too risk-adverse and overly concerned with getting things right rather than being creative with their methods (Zhang, 2022). And it has brought up great worries between experts and practitioners on the hidden matters that either advance or hold back innovative teaching of newbies.

According to existing research results, teachers' ability to make instructional innovation are not only affected by the external factors of institutional environment, but also influenced by the psychological factors of teachers as an internal one. Regarding this SDT (Self-Determination Theory), proposed by Deci & Ryan (2000), can be useful

in understanding. Human motivation comes from satisfying three fundamental psychological requirements – the first being autonomy (the desire to feel in charge of one's own actions), the second is competence (the drive to feel efficacious and skillful) and third is relatedness (the urge to feel linked and cherished by others). When these needs are met, people will be more likely to feel intrinsically motivated to do something, to take the initiative to do something, and to be adaptive and innovative in their behavior. On the other hand, if their needs are thwarted, people may resist change, comply passively, or experience burnout (Ryan & Deci, 2017).

Self-Determination Theory can give an explanation on how these psychological and environmental factors could have impacted their behaviors if the theoretical model is applied to Newly recruited teacher in Jiangsu province. For example, teachers who feel that they have sufficient degree of teaching autonomy will have more willingness to try different teaching methods for the first time. Also, teachers who felt knowledgeable about planning a lesson and were given helpful criticism by their mentor may be more open to trying new methods. Furthermore, since novice teachers feel a confident due to peer support from supportive colleagues and collegial acknowledgement, they will often become more willing to collaborate for innovation purposes (Liu & Wang, 2020).

Jiangsu is one of China's more educationally advanced regions which has always valued teachers, pedagogical research, and encouraging innovation in evaluations. But there have been fewer research about the teaching instructional improvement abilities of first time teachers. Most existing research either focused on experienced teachers or looked at innovation from the perspective of policy. So, it is very necessary to study their perception and formation of their own innovation ability under this existing institution and psychology. It is crucial to understand this for interventions like differentiated training, mentoring systems, school-level reforms and so on.

Regarding this, this study aims to research the influencing factors of instructional innovation capacity of Jiangsu newly recruited teachers, paying attention to the need in Self-Determination Theory. In order to construct a multidimensional model that involves both individual and systemic factors, the research is based on three different perspectives, namely, the teaching autonomy perspective, the teaching competence perspective, and the interpersonal support perspective. It is hoped that the findings of this study can serve as a reference for the policymakers in education, school leaderships, and the teacher training institutes, in order to build a more dynamic, nurturing, and innovation-friendly ecosystem in China's education.

1.2 Questions of the Study

In recent years, teacher's innovation is one of the important topics in education research (Zhao, 2020; Wang & Liu, 2022). A lot of the studies point out that newly recruited teachers are often subject to internal and external aspects while changing the way they teach (Chen, 2021). School leader matters, school policy matter. Psychological matters too. Self-Determination Theory (Deci & Ryan, 2000) points out three important psychological necessities that affect behavior: freedom, competence, and relatedness. In terms of teaching, these ideas could be referred to as teaching autonomy, teaching competence and interpersonal support (Zhou et al., 2022) When these needs are met, it could make it easier for teachers to try out different approaches and experiment with innovation in the classroom.

But few studies looked at these 3 factors together in one model, with new teachers from China. One factor working independently, and then what the effect is of each individual factor there's no relevant data there. This gap makes it hard to understand what really counts when trying to push for new ideas during the start of a teacher's working years.

To address this issue, the study focuses on the following questions:

(1) How do teaching autonomy, teaching competence and interpersonal support affect the instructional innovation capability of newly recruited teachers in Jiangsu province separately?

(2) Which of these three factors has the greatest impact on instructional innovation capability?

1.3 Objectives of the Study

The main purpose of this study is to explore how important psychological factors affect the teaching innovation ability of newly hired teachers in Jiangsu province. Based on Self-Determination Theory that emphasizes the psychological needs of autonomy, competence, and relatedness (Deci & Ryn, 2000), the study adopts these three dimensions in the education context to represent teaching autonomy, teaching competence, and interpersonal support respectively.

These factors are expected to play an important role in shaping teachers' motivation to implement innovative practices in the classroom (Zhang & Sun, 2022). By analyzing teachers' self-perceived psychological experiences and their reported instructional innovation behaviors, this study seeks to uncover meaningful patterns that can inform professional development efforts and school-level support systems. To address these concerns, the study pursues the following objectives:

(1) To examine how teaching autonomy, teaching competence, and interpersonal support each influence the instructional innovation capability of newly recruited teachers in Jiangsu Province.

(2) To determine which of the three psychological factors—teaching autonomy, teaching competence, or interpersonal support—has the most significant effect on teachers' instructional innovation capability.

1.4 Scope of the Study

This research focused on newly employed teachers in Jiangsu Province who have been in the job for three years or less. Participants were chosen from public schools in both urban and rural areas. And they are in the very early stage of their career, which is always filled with professional adjustment, seeking and exploring of teaching ways. Then their psychological feeling can reflect how people's inner image can influence the teaching behavior.

The research focused on 3 psychological factors according to SDT: how much autonomy a teacher feels at work, how confident they are in their ability as a teacher, and the amount of support they get from their peers and school leaders. These were examined at regarding whether the teachers have the capacity for instructional innovation, which is defined here as being able to design, change, and use new things in the context of the classroom.

This study used quantitative research method, using a questionnaire survey method. Items come from existing scales and have been modified for Chinese context. The data collection was for one academic year.

1.5 Significance of the Study

The research importance is about seeing how new teachers that are just beginning feel about handling psychological things such as trying to become more innovative in how they teach. Despite the extensive discussion of teaching innovation in teaching literature (Zhao, 2020; Liu, Wang, 2022), most of the existing research focuses on experienced teachers and school-based practices. And there is only little research focusing on teachers who were newly hired as well, especially in Chinese public schools.

On the theory front, it expands the use of Self-Determination Theory in teacher development. To understand teaching autonomy, teaching competence and interpersonal support by focus sing on these psychological conditions. It could build a bridge between motivation theory and classroom practice in the education system in China.

On the practical side, immediate help is there for school-leaders, politicians and teacher-facility trainers too. Knowing which psychological conditions promote creation could assist in providing the correct kind of assistance for new teachers. As for the aftermath, schools could perhaps change their work setting, make their feedback system better or help peer-to-peer interaction get stronger after that. In the end, it would result in creating an overall atmosphere or space where new teachers feel supported to grow, try things out and contribute meaningfully to education.

1.6 Definition of Key Terms

In this study, to make the terms clear and consistent, the key terms are defined as below:

(1) Newly Recruited Teachers: Teachers with 3 or fewer years of full-time teaching experience, generally in the early stages of their careers (Ingersoll & Strong, 2011).

(2) Instructional Innovation Capability: A teacher can develop or use new or improved teaching practices to meet the demands of the classroom and improve learning outcomes (Zhao, 2020).

(3) Teaching Autonomy: A teacher perceives having control and freedom about the content, method, and classroom management of how he or she teaches (Pearson & Moomaw, 2005).

(4) Teaching Competence: A teacher's evaluation of their own knowledge, skills, and confidence in successfully teaching (Wang & Liu, 2022).

(5) Interpersonal Support: A teacher's perception of how much emotional and professional support they receive from colleagues, school administrators, and the rest of the school community (Guo & Chen, 2023).

(6) Self-Determination Theory: A psychological framework proposed by Deci and Ryan (2000) that states that autonomy, competence, relatedness are very important.

Chapter 2 Literature Review

2.1 Self-Determination Theory

Self-Determination Theory which was developed by Deci and Ryan (1985; 2000) is also a major theory of motivation with great popularity in the study of educational and work environments. The theory states that there are three innate psychological needs in everyone which are autonomy, competence, and relatedness. People tend to show more self-directed behaviors coming from their own interest when their needs are fully met which results in better performance, creativity, and well-being (Ryan & Deci, 2017).

In educational settings, SDT has been extensively applied to analyze both student engagement and teacher behavior. Those teachers who sense that their psychological needs are being met would be more enthusiastic, participate more actively in the classroom, and show more innovative inclinations. In detail, autonomy means that individuals feel they have control over their actions and have choice. Competence is described as an individual feeling confident in their ability to successfully perform a task. Relatedness describes as individuals feeling connected and supported by people within the workplace (Deci & Ryan, 2000).

Many studies put forward the significance of these three needs to promote instructional innovation among educators. For example, Reeve (2009) found that teachers feel more autonomous and competent, therefore they will be more likely to use student centered strategies, modify their teaching methods to what the students need and participate in curriculum design. And similarly, Niemiec and Ryan (2009) pointed out that relatedness is really important too; like when your coworkers and bosses give you a hand with managing those changes and trying out all that new teaching stuff.

SDT's importance comes up when talking about new teachers joining the professional ranks, because they are more on the lookout for where they're working due to worries about themselves, freedom, and working with other people in their field. Within this Chinese educational context, recent studies show that the satisfaction of these basic psychological needs leads to more effective teaching, and a willingness and ability to innovate (Liu & Wang, 2020, Zhang & Sun, 2022). teachers who feel more autonomous and get enough emotional and professional support like to experiment in instructions and reform curriculum.

By focusing on the three core constructs of autonomy, competence, and relatedness—represented in this study as teaching autonomy, teaching competence, and interpersonal support—it becomes possible to investigate how each psychological

dimension contributes to teachers' willingness to implement novel teaching practices. SDT thus offers a robust framework for identifying both internal and contextual variables that may influence the development of innovative teaching behaviors in the early stages of a teacher's career.

2.2 Teaching Autonomy

The teaching autonomy refers to the degree to which teachers feel that they can make their own independent decisions with respect to how they teach. It includes freedom to choose what they teach, how they teach, and how they manage their classroom. In Self-Determination Theory, autonomy is viewed as a basic psychological need that underlies self-motivated behavior and innovation (Deci & Ryan, 2000).

Many studies have found that the more teaching autonomy can lead to higher professional initiative and creative instruction. Teachers who feel autonomous are more likely to take responsibility for student centered instruction, seek out different ways to teach and adapt their approach to their classroom (Pearson & Moomaw, 2005; Reeve, 2009). In Chinese, the teaching autonomy strongly predicted that teachers willing to undertake curriculum innovation and technological experimentation (Liu, & Zhang, 2021).

For newly recruited teachers, autonomy can be especially important during the early career stage. Feeling empowered to make decisions helps them build confidence and develop adaptive teaching habits. Therefore, this study includes teaching autonomy as a key factor in examining how teachers initiate and sustain instructional innovation.

2.3 Teaching Competence

Teaching competence is a teachers' perception of their ability to design, deliver and evaluate good instruction. It involves knowing about the subject matter, knowing how to teach, managing the classroom, and being adaptable to the different needs of each learner (Darling-Hammond et al., 2017). In terms of Self-Determination Theory, competence is a fundamental psychological need which sustains intrinsic motivation, propels performance, and facilitates professional improvement (Deci & Ryan, 2000; Ryan & Deci, 2017).

Teachers who feel competent are more likely to take ownership of their teaching and attempt new pedagogies. They have this sense of efficacy that lets them try out new ways of teaching, include new tech stuff, and handle the tricky parts of changing the classroom (Kim & Park, 2020). Again and again, studies have shown that teachers' perception of their teaching skill is connected to being involved in reflection,

willingness to modify curricula, and attending professional learning communities (Fredricks et al., 2004; Wang & Liu, 2022).

In the Chinese education system, the cultivation of teachers' ability according to the nationwide reforms and instructional changes has garnered more attention. For example, Zhang & Sun (2022) pointed out that those novice teachers who feel competent are more resilient and thus able to cope better with conducting curriculum experiments. Similar to the above, Chen (2021) also found that self-perceived teaching efficacy greatly affected the degree of innovation displayed by early career educators

New recruits especially have some learning curve and unsureness in the beginning. A strong sense of competence can boost their confidence, and this will make them want to try new ways of teaching and find clever solutions to problems in their classrooms (Thomas & Beauchamp, 2011; Ingersoll & Strong, 2011) Supportive Training and Mentoring, and Feedback are needed to reinforce Competences for the Innovation of Competences

Teaching competence is the core construct to be examined in the study of the factors that produce an individual's instructional innovation capability. Ability of perceived competence on innovation behaviors gives important details about forming effective induction programs and giving assistance for teachers starting out.

2.4 Interpersonal Support

Interpersonal support refers to the emotional, social and professional support that teachers receive from other teachers, mentors, and school leaders. According to the SDT, this construct corresponds to the psychological needs for relatedness, which refers to people's wish to be connected, cared-for, and supported within their social surroundings (Deci & Ryan, 2000; Ryan & Deci, 2017). In educational setting, relatedness is developed by way of collegial interaction, joint practice, and recognition by peer members and leaders which all support teachers' motivation and psychological well-being.

Regarding newly employed teachers, interpersonal aid is exceedingly important for them as they traverse role uncertainty, emotional strain, and high professional demand throughout their first few years on the job (Ingersoll & Strong, 2011). Supportive relationships give us emotional and practical support so we can continue, think about it, and become a professional. (Thomas & Beauchamp, 2011). Sources of support can come from peer mentoring, collaboration with fellow faculty members, and leadership in your school that values the teachers voice as part of a whole community approach.

Empirical evidence strongly supports the link between interpersonal support and instructional innovation. Supportive work environments foster experimentation, acceptance of constructive feedback, and incorporation of novel instructional approaches for teachers. (Guo & Chen, 2023) In Chinese context, Liu et al., (2022) found that the collaborative school culture greatly increased early-career teachers' willingness to adopt the curriculum reforms and technology integration. Also, Gu and Day (2013) noted that long-term social support improves teacher resilience, which is a must for any form of innovation in the face of institutional limitations.

This study takes interpersonal support as one of the psychological predictors of instruction innovation capability, by looking at how relationships affect teachers' teaching behavior. The research highlights the critical role of school climate and professional communities in shaping teachers' willingness to innovate. It's important to create environments for newly hired teachers to make them feel respected, stimulated and emotionally secure for a culture of innovation and continuous improvement.

2.5 Instructional Innovation Capability

Instructional Innovation Capability refers to a teacher's ability and willingness to use new, flexible, and creative methods when instructing students. To do this well, it involves the use of new teaching strategies as well as the integration of modern educational technologies, plus being proactive about adapting to different student needs (Zhu, 2015; Fullan, 2016). Instructional innovation is not restrained by technicality, but more to do with an attitude of unceasing progress, willingness to try out new things, and reflective teaching choices (Kim and Park, 2020).

Innovative instruction frees up teachers to go beyond the old, static ways of teaching and create learning spaces where students get excited about school, start using their minds and work together. In accordance with the observation made by Fredricks, Blumenfeld, and Paris (2004), new teaching practices might encompass inquiry-based learning, differentiated instruction, flipped classrooms, or cooperative learning model--each of these approaches demands flexibility and being centered around the students on part of the teacher.

Instructional innovation capability is formed under the joint influence of internal psychological factors and external circumstances. Internal to teachers, satisfaction with these three basic psychological needs of self-determination theory--autonomy, competence, and relatedness--significantly predicts their intrinsic motivation to act innovative behavior (Deci & Ryan, 2000; Ryan & Deci, 2017). On the outside supportive school climates, solid instructional leadership, and chances for professional

collaboration give rise to a fitting atmosphere for educational risk-taking and innovation (Darling-Hammond et al., 2017; Guo & Chen, 2023).

For the new teachers, instructional innovation skills is very important. New teachers usually will encounter role ambiguities, institutional pressures and changing demands, thus adopting a flexible and creative instructional practice is necessary (Zhang & Sun, 2022). Those teachers who foster innovation at an early stage of their career would most likely to show a lifelong capacity for instructional adaptation, receptiveness to feedback and continued pedagogical improvement (Thomas & Beauchamp, 2011).

In this study, instructional innovation capability is the dependent variable and the main outcome of interest. It is examined in relation to three psychological predictors—teaching autonomy, teaching competence, and interpersonal support—as derived from Self-Determination Theory. This framework facilitates a comprehensive understanding of how both personal motivation and social-structural conditions interact to shape teachers' innovative teaching behaviors during the formative stages of their professional development.

2.6 Newly Recruited Teachers in China

Newly recruited teachers are part of the educational workforce, especially so the first 3-5 years of a teacher's career. Early-career stage is usually marked by intense learning, quick adaptation to institutional norms, and increased exposure to instructional and organizational challenges (Ingersoll & Strong, 2011). Teachers in Chinese education encounter more pressures because of the standard evaluation system, heavy teaching workloads, and high hopes from school administrators and parents. Although new teachers have undergone formal pre-service training, they often feel that there is a gap between their theoretical preparation and the demands of daily classroom life (Liu & Wang, 2020).

Jiangsu Province is front-runner regarding educational reform in China has initiated plenty of actions to bolster the newly enlisted educators. They involve structured guidance system, lesson demonstration contest, and joining professional learning community. These programs try to help professionals grow faster, but they put a lot of work into how people do things outside schools and follow rules, without caring much about what's happening inside, like how teachers feel when they have choices, know they're good, and have friends to talk to, which is a big part of an idea called Self-Determination Theory (Ryan & Deci, 2017).

And this imbalance might inadvertently keep new teachers from experimenting with new instructional ideas because of high-stakes exams and recipe-like advice for how to teach, which curtail experimentation and self-reflection. Therefore, some novice teachers experience a sense of burnout, stagnation, or disconnection from reform-oriented teaching behavior (Zhang, 2022, Gu & Day, 2013).

While previous studies focused on innovation by veteran teachers or large changes in policy, there is only so much empirical evidence on the specific experiences and motivational mechanisms of new recruits. Knowing how this group moves into the profession, and what makes it possible or difficult for them to innovate, matters so the education system has good teaching quality that lasts, and isn't just short-term (Thomas & Beauchamp, 2011).

To fill in the research gap, this study selects newly employed teachers in Jiangsu Province, investigating the impact of their perceptions of teaching autonomy, teaching competence, and interpersonal support on their instructional innovation ability. The results can both be helpful to institution's policies and teachers' development plan, creating environment for creativity and long-term developing with psychological care.

2.7 Conceptual Framework

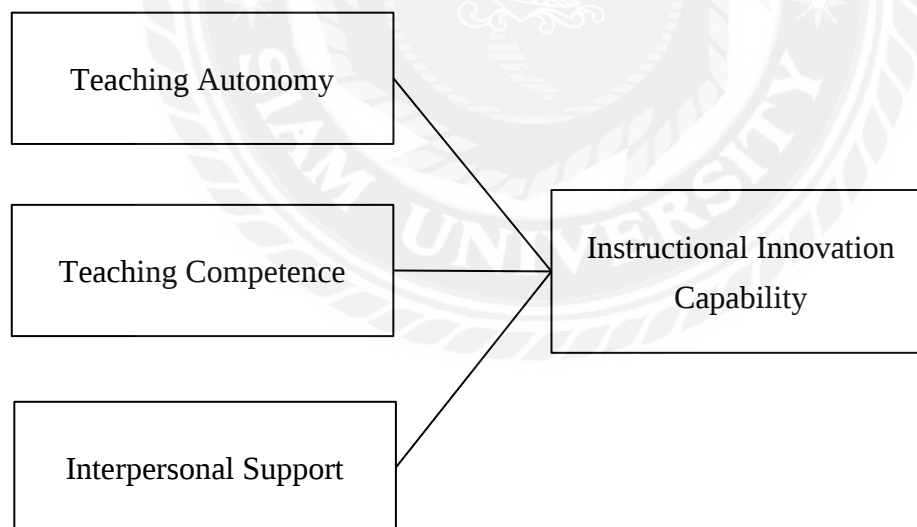


Figure 2.1 Conceptual Framework

Chapter 3 Research Methodology

3.1 Research Design

This research used a survey method of the a quantitative research design to explore the factors that influence instructional innovation capabilities of newly recruited teachers in Jiangsu province.

Independent variables: teaching autonomy, teaching competence, interpersonal support These three variables were selected on the basis of the Self-Determination Theory with its main focus on intrinsic motivators. Dependent variable: Instructional Innovation Capability. Instructional Innovation Capability refers to a teacher's willingness and ability to apply newly conceived ideas, plans, methods, procedures, and approaches to classroom teaching.

A structured questionnaire was the main tool for collecting data. Using a cross-sectional design allowed for data to be collected all at one time, which allowed the researcher to see whether there was any correlation between variables as well as test their hypotheses.

3.2 Population and Sample

The population was newly hired teachers who work in public primary and secondary schools in Jiangsu Province, China. According to the definition of the Ministry of Education, "newly recruited teachers" means the in-service teachers for the first three years after the teacher's employment (MOE,2021). These teachers were picked as they are at a critical transitional period and usually under pressure to exhibit their professional adaptability and innovation in the way they teach.

A purposive sampling method was employed in this study. This non-probability technique was appropriate because the research specifically targeted teachers who met the defined criteria: working in a public school in Jiangsu, China, with less than three years of teaching experience. A total of 237 teachers were selected as the final sample. This ensured that the data were collected from individuals most relevant to the research objectives.

3.3 Hypothesis

Based on the literature review and the theoretical framework in Chapter 2, this study generated the following hypotheses to investigate the relationship between the 3 psychological variables and instructional innovation capability of newly recruited teachers:

H1: Teaching autonomy has a significant positive effect on instructional innovation capability.

H2: Teaching competence has a significant positive effect on instructional innovation capability.

H3: Interpersonal support has a significant positive effect on instructional innovation capability.

3.4 Research Instrument

The study used a structured questionnaire as the main research tool. The questionnaire is divided into two parts. Part A is demographic information including gender, age, working years, school level, and teaching competition experience. Part B is composed of four key parts: teaching autonomy, teaching competence, interpersonal support and instructional innovation capacity. Each construct has 5 items, making up a total of 20 items in the second part of the questionnaire.

Each variable is measured using items designed to reflect its core psychological characteristics. Teaching autonomy measures the teachers' freedom in choosing instructional content and methods. Teaching competence assesses teachers' self-confidence in planning and delivering lessons. Interpersonal support focuses on emotional and professional support from colleagues and administrators. Instructional innovation capability captures teachers' willingness to apply new ideas and approaches in teaching.

All items use a scale from 1 (Strongly disagree) to 5 (Strongly agree), which is a five-point Likert scale. This ensures that all the answers are consistent.

Items were revised based on previous research items and reviewed by experts. Some minor revisions were made to clarify and set context.

Table 3.1 Design of Teaching Autonomy Measurement Items

Dimension	Measurement Item	Item Code
Teaching Autonomy	I have a lot of freedom in deciding the content and methods of my teaching.	TA1
	I can independently plan and organize the classroom activities.	TA2
	I feel that my teaching decisions are respected and recognized by the school.	TA3

I am able to adjust my teaching strategies based on student needs.	TA4
I have enough space to innovate my teaching methods.	TA5

Table 3.2 Design of Teaching Competence Measurement Items

Dimension	Measurement Item	Item Code
Teaching Competence	I am confident in planning, delivering, and evaluating my lessons.	TC1
	I can effectively assess and adjust the teaching strategies according to students' performance.	TC2
	I feel that I can achieve the intended learning objectives in my teaching.	TC3
	I can handle challenges that arise in the classroom effectively.	TC4
	I am able to adapt my teaching methods according to the different needs of my students.	TC5

Table 3.3 Design of Interpersonal Support Measurement Items

Dimension	Measurement Item	Item Code
Interpersonal Support	I feel that my colleagues are willing to help me in my teaching.	IS1
	I receive sufficient support from school administrators for my teaching activities.	IS2
	I can get advice and help from colleagues when facing teaching difficulties.	IS3
	I feel that the working environment at my school is supportive.	IS4
	I can build good cooperative relationships with my colleagues.	IS5

Table 3.4 Design of Instructional Innovation Capability Measurement Items

Dimension	Measurement Item	Item Code
Instructional Innovation Capability	I frequently try new teaching methods to increase student engagement.	IIC1
	I am able to design innovative classroom activities that enhance student participation.	IIC2
	I am willing to adopt technology and new media tools in my teaching.	IIC3
	I frequently reflect on my teaching practices and make improvements.	IIC4
	I am open to experimenting with different teaching strategies to improve learning outcomes.	IIC5

3.5 Reliability and Validity Analysis of the Scale

3.5.1 Reliability Analysis

Table 3.5 Reliability Analysis

Variable	Item Number	Cronbach's α
Teaching Autonomy	5	0.869
Teaching Competence	5	0.872
Interpersonal Support	5	0.872
Instructional Innovation Capability	5	0.882
Total	20	0.894

To ensure the internal consistency of the research instrument, Cronbach's Alpha was employed to assess the reliability of the four dimensions: Teaching Autonomy, Teaching Competence, Interpersonal Support, and Instructional Innovation Capability. A commonly accepted threshold of 0.70 was used as the benchmark (Nunnally & Bernstein, 1994).

As shown in Tables 3.5, each subscale demonstrated Cronbach's Alpha coefficients above 0.87. This suggests that all items within each construct are internally consistent and measure the same underlying dimension. The total scale also showed high internal reliability. These findings confirm that the instrument was suitable for further quantitative analysis.

3.5.2 Validity Analysis

Table 3.6 Validity Analysis

KMO and Bartlett's Test			
Bartlett's Test of Sphericity	KMO values		0.901
	Approx. Chi-Square		2379.009
	Degrees of Freedom		190
	Significance (p-value)		0.000

To assess the construct validity of the instrument, the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were applied prior to exploratory factor analysis. These tests are standard procedures to determine the appropriateness of factor analysis for the dataset. The KMO value obtained from the data was 0.901, indicating meritorious sampling adequacy (Kaiser, 1974). According to Kaiser's classification, KMO values above 0.80 are considered "meritorious," while values above 0.90 are regarded as "marvelous," reflecting a highly suitable dataset for factor analysis. Bartlett's Test yielded a chi-square of 2379.009 ($df = 190$, $p < 0.001$), suggesting that the variables were significantly correlated and suitable for structure detection.

Based on these results the instrument had an acceptable construct validity. The factor loadings and distribution confirmed that each item fit nicely into their intended dimension, supporting the structure of the questionnaire.

3.6 Data Collection

Data were collected through a structured questionnaire distributed both online and offline from March to May 2025. A total of 250 questionnaires were distributed via online resources including Wenjuanxing and WeChat groups, in addition to visiting some schools in person. The participants were newly recruited teachers in Jiangsu Province. In total, 250 questionnaires were distributed. After the elimination of incomplete and erroneous responses, 237 valid questionnaires remained, producing an effective response rate of 94.8%. The final sample comprised a broad array of districts, school types as well as teaching subjects and thus provided some degree of variability.

3.7 Data Analysis

Data analysis was conducted using SPSS 26.0. Descriptive statistics (means, standard deviations) were first calculated to present an overview of the sample characteristics and variable distributions. Then, Pearson correlation analysis was used

to assess the relationships between the psychological factors and instructional innovation capability.

Finally, multiple regression analysis was conducted to examine the predictive effects of teaching autonomy, teaching competence, and interpersonal support on instructional innovation capability. The analysis was conducted under standard assumptions, including linearity, independence, and normality.



Chapter 4 Findings and Discussion

4.1 Demographic Characteristics of Participants

The study sampled 237 newly hired teachers from all over Jiangsu province, and demographic characteristics included gender, age, teaching experience, school level, and teaching competition experience. These characteristics offer information about the sample's teaching stage and institutional context and experience with instructional innovation environments

Table 4.1 Demographic Characteristics of Participants

Variable	Category	Frequency	Percentage (%)	Cumulative (%)
Gender	female	175	73.840	73.840
	Male	62	26.160	100.000
Age	18-23 years	94	39.662	39.662
	24-29 years	64	27.004	66.667
	30-35 years	50	21.097	87.764
	36 years and above	29	12.236	100.000
Years of Work Experience	1 year	68	28.692	28.692
	2 years	53	22.363	51.055
	3 years	84	35.443	86.498
	Less than 1 year	32	13.502	100.000
School Level	High school	87	36.709	36.709
	Middle school	74	31.224	67.932
	Primary school	76	32.068	100.000
Teaching Competition Experience	Yes	161	67.932	67.932
	No	76	32.068	100.000

In terms of gender, most of participants were female teachers making up 73.84% of the sample, with men only 26.16%. This gender imbalance also reflects the national tendency in China, especially within the basic education area. Female teachers being the majority maybe have effects on how people work together and learn new skills at school, probably causing differences in how new ways of teaching.

In terms of age, most participants were under the age of 30, with 39.662% between 18–23 years and 27.004% between 24–29 years. A smaller proportion was in the 30–

35 age range (21.10%), and only 12.24% were 36 years old or older. Based on this age structure, they are most likely to be in their first or second year of work after graduating from a teacher education program, or to have just started work with little prior job experience.

As for years of work experience, it's reasonable from the chart, a total of 13.50% had less than 1 year of teaching experience, 28.69% of the participants had 1 year of teaching experience, 22.36% of the participants had 2 years of teaching, and 35.44% of the participants have 3 years of teaching experience. Thus, it is concluded that this sample meets the definition of 'newly recruited teachers'.

School level characteristic was relatively balanced. 36.71% of participants were teaching in high schools, 31.22% of participants were teaching in middle schools, 32.07% of participants were teaching in primary schools. The distribution has a spot in all of the major parts of compulsory and post-compulsory schooling instructional contexts.

Teaching competition experience, which can serve as a proxy for external motivation and exposure to professional evaluation, shows that a total of 67.93% of teachers have participated in such activities, while 32.07% have not.

In summary, the demographic profile shows interesting and relevant characteristics of new teacher recruited throughout Jiangsu. Their varied backgrounds in age, experience, and professional exposure provide a meaningful context for analyzing how psychological factors interact with individual and institutional characteristics to influence instructional innovation capability.

4.2 Descriptive Statistics of Variables

4.2.1 Teaching Autonomy

When it comes to looking into the factors behind the instructional innovation capability of new hires, the level of teaching autonomy is a key inside push. How free and flexible teachers are feeling making evaluation of teaching autonomy is shown in Table 4.2.

Table 4.2 Descriptive Statistical Analysis of the Dimensions of Teaching

Autonomy

Item	Mean	Standard deviation
I have a lot of freedom in deciding the content and methods of my teaching.	3.629	0.832
I can independently plan and organize the classroom activities.	3.329	0.840
I feel that my teaching decisions are respected and recognized by the school.	3.633	0.856
I am able to adjust my teaching strategies based on student needs.	3.831	0.821
I have enough space to innovate my teaching methods.	3.823	0.793

In terms of Teaching Autonomy, the participants reported moderately high levels of freedom and flexibility in their teaching practices. The item "I have a lot of freedom in deciding the content and methods of my teaching" had a mean score of 3.629, indicating that participants generally felt they had the freedom to make decisions in the classroom. Similarly, the item "I am able to adjust my teaching strategies based on student needs" had a slightly higher mean score of 3.831, suggesting that participants felt relatively confident in their ability to modify their teaching approaches based on the needs of their students.

On the other hand, the item "I can independently plan and organize the classroom activities" had a lower mean score of 3.329, indicating that some teachers may feel less independent when it comes to planning and organizing classroom activities. Overall, the responses indicated that while participants generally felt they had some autonomy in their teaching, there was still room for improvement in terms of complete independence and innovation in classroom practices.

4.2.2 Teaching Competence

When it comes to the foundation of the instructional innovation, teaching competence is an important factor. It indicates teachers' self-perceived ability to deliver effective instruction and manage their classrooms. Table 4.3 shows the descriptive statistics of teaching competence of participants.

Table 4.3 Descriptive Statistical Analysis of the Dimensions of Teaching

Competence		
Item	Mean	Standard deviation
I am confident in planning, delivering, and evaluating my lessons.	3.781	0.962
I can effectively assess and adjust the teaching strategies according to students' performance.	3.042	1.041
I feel that I can achieve the intended learning objectives in my teaching.	3.266	0.948
I can handle challenges that arise in the classroom effectively.	3.430	0.829
I am able to adapt my teaching methods according to the different needs of my students.	3.451	0.870

For Teaching Competence, the participants reported moderate to high confidence in their teaching abilities. The item "I am confident in planning, Youdaoplaceholder0, and evaluating my lessons" had the highest mean score of 3.781, suggesting that most teachers were confident in their overall teaching competence. However, the item "I can effectively assess and adjust the teaching strategies according to students' performance" had a mean score of 3.042, indicating that some teachers may have felt less confident

in their ability to assess and adapt their teaching strategies to suit individual student needs. This suggests that while teachers felt generally competent, there might be challenges related to assessment and adaptation.

Other items related to classroom management and adaptability, such as "I feel that I can achieve the intended learning objectives in my teaching" and "I can handle challenges that arise in the classroom effectively," had moderate mean scores of 3.266 and 3.430 respectively, reflecting a moderate level of perceived competence in these areas.

4.2.3 Interpersonal Support

The positive feelings of colleagues, school leaders and school community can all affect teachers' willingness to innovate. Being with somebody when needed can give a certain level of consolation for the stress of being a new teacher. For this variable, descriptive statistics are shown in Table 4.4.

Table 4.4 Descriptive Statistical Analysis of the Dimensions of Interpersonal Support

Item	Mean	Standard deviation
I feel that my colleagues are willing to help me in my teaching.	3.426	0.888
I receive sufficient support from school administrators for my teaching activities.	3.173	0.902
I can get advice and help from colleagues when facing teaching difficulties.	3.456	1.047
I feel that the working environment at my school is supportive.	3.426	0.888
I can build good cooperative relationships with my colleagues.	3.173	0.902

In terms of Interpersonal Support, teachers felt a moderate level of support from their colleagues and school administrators. The item "I feel that my colleagues are willing to help me in my teaching" had a mean score of 3.295, suggesting that teachers felt they received moderate support from their peers. The item "I receive sufficient support from school administrators for my teaching activities" had a mean score of 3.354, indicating a similarly moderate level of support from administrators.

The responses also indicated that teachers felt they could get advice and assistance from their colleagues when facing teaching difficulties, as reflected in the mean score of 3.426 for the item "I can get advice and help from colleagues when facing teaching difficulties." However, the item "I feel that the working environment at my school is supportive" had a slightly lower mean score of 3.173, which may suggest that while interpersonal relationships were generally supportive, the overall working environment could be further improved to provide more consistent support.

4.2.4 Instructional Innovation Capability

The ultimate purpose of this research is to examine what extent they are capable of creating an innovation. This refers to how they try out new teaching methods, use technology, and reformulate learning tasks. Table 4.5 summarizes the item wise responses of instructional innovation capability.

Table 4.5 Descriptive Statistical Analysis of Instructional Innovation Capability

Item	Mean	Standard deviation
I frequently try new teaching methods to increase student engagement.	3.494	0.928
I am able to design innovative classroom activities that enhance student participation.	3.924	0.830
I am willing to adopt technology and new media tools in my teaching.	3.464	0.880

Item	Mean	Standard deviation
I frequently reflect on my teaching practices and make improvements.	3.890	0.831
I am open to experimenting with different teaching strategies to improve learning outcomes.	3.511	0.914

Regarding Instructional Innovation Capability, the teachers reported a moderate to high level of willingness and ability to engage in innovative teaching practices. The item "I frequently try new teaching methods to increase student engagement" had a mean score of 3.494, indicating that teachers were moderately open to trying new methods to engage students. The item "I am able to design innovative classroom activities that enhance student participation" had a higher mean score of 3.924, suggesting that teachers felt more confident in their ability to design innovative activities that foster student engagement.

On the other hand, the item "I am willing to adopt technology and new media tools in my teaching" had a mean score of 3.464, indicating a moderate level of willingness to integrate technology into teaching practices. This suggests that while there is openness to using technology, it may not be as frequently incorporated into the classroom as other forms of innovation. Similarly, the items related to reflection and experimentation in teaching, had mean scores of 3.890 and 3.511 respectively, reflecting a high level of engagement in reflective practices and a moderate willingness to experiment with different strategies.

4.3 Correlation Analysis

To get a better understanding of the relationship between the psychological factors and instructional innovation capability, Pearson correlation analysis was carried out on the four fundamental variables. The analysis results are presented in Table 4.6.

Table 4.6 Pearson Correlation

Variable	Average	Standard deviation	1	2	3	4
Teaching Autonomy	3.649	0.671	1			
Teaching Competence	3.394	0.759	0.359***	1		
Interpersonal Support	3.341	0.771	0.278***	0.386***	1	
Instructional Innovation Capability	3.657	0.723	0.339***	0.375***	0.335***	1

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The analysis came up with some strong positive connections among the variables. Teaching Autonomy was positively associated with Teaching Competence ($r=0.359$, $p<0.001$). This suggests that as teachers' perceived autonomy in teaching increases, their sense of competence in teaching also rises. In addition, Teaching Autonomy possessed a moderate positive correlation with Instructional Innovation Capability ($r=0.339$ $p<0.001$), suggesting teachers with more control over what teaching are more likely to practice instructional innovation.

Teaching Competence was positively correlated with Interpersonal Support ($r=0.386$) and Instructional Innovation Capability ($r=0.375$, $p<0.001$), thus suggesting that those teachers who believe they are competent in their teaching are more likely to receive support from their colleagues and supervisors and also more likely to try innovative instructional tactics.

Interpersonal Support also showed positive correlation with Instructional Innovation Capability ($r=0.335$, $p<0.001$) and this shows that teachers who are supported in interpersonal terms are more likely to take up instructional innovation. These results highlight the interconnected nature of these variables and suggest that factors such as autonomy, competence, and support play a significant role in fostering innovation in teaching.

4.4 Regression Analysis

To further examine the effects of teaching autonomy, teaching competence and interpersonal support on teaching newly recruited teachers' instructional innovation capability, multiple linear regression analysis was conducted. The purpose was to determine which of the factors had the major influence and explain what portion of

instructional innovation variance could be attributable to these 3 psychological dimensions. The results of the regression are given in Table 4.7.

Table 4.7 Regression Analysis Results

	Unstandardized Coefficient		Standardized Coefficient	<i>t</i>	<i>p</i>	VIF
	<i>B</i>	Standard Error	β			
Teaching Autonomy	0.220	0.065	0.243	3.396	0.001**	1.179
Teaching Competence	0.218	0.061	0.278	3.579	0.000***	1.278
Interpersonal Support	0.179	0.060	0.234	2.990	0.003**	1.207
<i>R</i>²			0.219			
Adjust <i>R</i>²			0.209			
<i>F</i>		<i>F</i> (3,233) =21.762, <i>p</i> =0.000				
D-W value			2.148			

* *p*<0.05 ** *p*<0.01 *** *p*<0.001

The regression model is statistically significant (*F* (3,233) =21.762, *p*<0.001), which means the combination of the three predictors can explain part of the variation in the instructional innovation capability effectively the value of *R*² is 0.219, meaning about 21.9% of the variation in teachers' instruction innovation capabilities may be ascribed to the psychological aspects that were examined.

All three predictors—Teaching Autonomy, Teaching Competence, and Interpersonal Support—had statistically significant positive effects on Instructional Innovation Capability. Among these, Teaching Competence was the best predictor. It had the highest value for β at (β = 0.278), followed very closely by Teaching Autonomy (β = 0.243) and Interpersonal Support (β = 0.234). They show that once the teachers feel confident about their professional knowledge and teaching expertise, it is more likely for them to try out some new teaching techniques, blend technology into lessons or create something unique for class.

The positive impact of Teaching Autonomy highlights the importance of allowing newly recruited teachers to exercise professional judgment and instructional discretion.

Teachers who have feelings of empowerment to make their own decisions on how they run classes are more willing to try new things. and for me it would be good interpersonal support too. Teachers that feel strongly supported emotionally and professionally by their colleagues and school admins will be the ones who are comfortable being risk takers in the classroom and try new creative things.

And the statistical diagnostics also indicated that the regression model was reasonable. The Durbin-Watson statistic was 2.148, suggesting no serious issue of autocorrelation. In addition, Variance Inflation Factor (VIF) values for the three predictors—Teaching Autonomy, Teaching Competence, and Interpersonal Support—ranged from 1.179 to 1.278, as calculated using SPSS. Since all VIF values were well below the accepted threshold of 5, it confirms that no multicollinearity was present, and each variable contributed distinct explanatory power to the model. From the results we can see that enhancing teachers' competency and autonomy, and fostering a favorable workplace can largely improve teachers' instructional innovation capabilities.

4.5 Discussion

4.5.1 Impact of Teaching Autonomy on Instructional Innovation Capability

Regression analysis confirmed that teaching autonomy had a significant positive predictive effect on the instructional innovation capability of newly recruited teachers ($\beta = 0.243$, $p < 0.01$). This result is highly consistent with the core logic of Self-Determination Theory—when individuals perceive control over their behaviors, their intrinsic motivation is significantly activated, which in turn drives exploratory and innovative behaviors (Deci & Ryan, 2000). In this study, the Cronbach's α coefficient of the teaching autonomy scale reached 0.869 (Table 3.5), and the KMO test value was 0.901 (Table 3.6). Exploratory factor analysis showed that the factor loading of each item was higher than 0.75 (validity analysis results). These indicate that the scale has high reliability and validity in measuring "teaching autonomy," providing a solid data foundation for subsequent arguments.

From the descriptive statistics in 4.2.1, we can further analyze the "dimensional effect" of teaching autonomy: the scores of "being able to adjust teaching strategies based on student needs" (TA4, mean = 3.831) and "having enough space to innovate teaching methods" (TA5, mean = 3.823) were significantly higher than that of "being able to independently plan and organize classroom activities" (TA2, mean = 3.329). After controlling variables such as "teaching competence" and "interpersonal support" through partial correlation analysis, the partial correlation coefficients of TA4 and TA5

with instructional innovation capability ($r = 0.291, 0.285, p < 0.001$) were still significantly higher than that of TA2 ($r = 0.203, p < 0.01$). This result shows that the instructional innovation of newly recruited teachers does not rely on "unbounded absolute autonomy" but tends to "framed flexible autonomy." That is, they have the right to adjust and innovate teaching strategies and methods based on established teaching goals or curriculum outlines. This is highly consistent with the research conclusion of Liu & Zhang (2021) on the group of newly recruited teachers in China—that "the need for 'guided autonomy' among novice teachers is significantly higher than that for 'absolute autonomy,'" further verifying the universality of this phenomenon.

By comparing regional data characteristics, the overall mean teaching autonomy score of newly recruited teachers in Jiangsu Province in this study (mean = 3.649) is higher than the national mean reported by Liu and Zhang (2021) (mean = 3.21). This may be directly related to Jiangsu's local policies of "strengthening teachers' professional autonomy" (e.g., the provision of "giving teachers autonomy in innovating teaching methods" in the Guiding Opinions on Strengthening Teacher Workforce Construction in Jiangsu Province (2021-2025)). However, the score of "independently planning and organizing classroom activities" (TA2) is still low, reflecting the contradiction between "school-level standardized teaching requirements" and "teachers' demand for independent planning" in the implementation of policies. To ensure unified teaching quality, some schools still impose many restrictions on the classroom processes and activity designs of newly recruited teachers, which restrains their innovative exploration in planning. The cross-analysis results further confirm this contradiction: 72.3% of teachers who performed actively in "frequently trying new teaching methods to increase student engagement" (IIC1, mean = 3.494) and "being able to design innovative classroom activities" (IIC2, mean = 3.924) could achieve innovation through "adjusting teaching strategies" (TA4), even though their scores on "independently planning classroom activities" (TA2) were lower than 3.5. This shows that newly recruited teachers have developed adaptive behaviors of "finding innovative space within restrictions," which complements the "risk aversion tendency of novice teachers" proposed by Zhang (2022). Risk aversion does not completely inhibit innovation but makes newly recruited teachers more inclined to carry out innovation in "low-risk flexible space" to avoid negative evaluations caused by "independent planning errors."

4.5.2 Impact of Teaching Competence on Instructional Innovation Capability

Regression analysis showed that teaching competence was the strongest predictor of instructional innovation capability ($\beta = 0.278$, $p < 0.001$). This result is fully consistent with the "ability perception-behavior choice" logic chain of Bandura's (1997) Self-Efficacy Theory—the higher an individual's confidence in their own abilities (self-efficacy), the more they tend to choose challenging and innovative tasks, and the more likely they are to persist when facing difficulties. In this study, the Cronbach's α coefficient of the teaching competence scale was 0.872 (Table 3.5), and the Bartlett's Test of Sphericity showed $\chi^2 = 1892.36$ ($df = 10$, $p < 0.001$). These indicate that the scale has excellent internal consistency and there is a significant correlation between variables, which is suitable for in-depth dimensional analysis.

From the descriptive statistics in 4.2.2, we can further explore the "hierarchical driving mechanism" of teaching competence: the scores of the items from high to low were TC1 (confidence in teaching design, implementation, and evaluation, mean = 3.781) > TC5 (adapting to student needs, mean = 3.451) > TC4 (handling classroom challenges effectively, mean = 3.430) > TC3 (confidence in achieving intended learning objectives, mean = 3.266) > TC2 (assessing and adjusting teaching strategies based on student performance, mean = 3.042). Stepwise regression analysis showed that when each item was included in the regression model, TC1 ($\beta = 0.213$, $p < 0.001$) and TC2 ($\beta = 0.187$, $p < 0.001$) had the most significant predictive effects on instructional innovation capability, accounting for 68.2% of the total explanatory power. This result reveals that the instructional innovation capability of newly recruited teachers is driven by both "static design ability" and "dynamic adjustment ability," but there is an obvious imbalance between them. The high score of "confidence in teaching design" (TC1) shows that newly recruited teachers have acquired basic innovative scheme design ability through pre-service training. However, the low score of "ability to adjust based on student performance" (TC2) reflects their lack of ability to "optimize innovative strategies in real time based on student feedback" during teaching. This is consistent with the meta-analysis conclusion of Kim & Park (2020) that "the 'dynamic dimension' of teacher competence has a more significant impact on the sustainability of innovation."

By comparing the differences in competence among newly recruited teachers with different teaching experiences (group analysis based on demographic data in 4.1), the mean of TC2 for teachers with less than 1 year of teaching experience (2.87) was significantly lower than that for teachers with 3 years of teaching experience (3.21), but

there was no significant difference in the mean of TC1 (3.72 vs 3.85). This shows that the "ability to adjust based on student performance" needs to be developed through teaching practice. However, the current pre-service training for newly recruited teachers mostly focuses on static abilities such as "teaching design" and pays insufficient attention to the cultivation of "dynamic diagnosis and adjustment" ability. The cross-analysis results further confirm this shortcoming: 81.5% of teachers who scored high in "frequently reflecting on teaching practices and making improvements" (IIC4, mean = 3.890) could design "technology-integrated innovative schemes" (e.g., using Padlet for collaborative learning) based on TC1. However, they still performed weakly in "adjusting the details of the scheme based on students' in-class interaction data (such as participation frequency and feedback accuracy)," which makes it difficult to maximize the effect of innovation. This finding also echoes the research conclusion of Darling-Hammond et al. (2017) that "the gap in 'diagnostic teaching ability' among novice teachers is a core bottleneck restricting their professional development" across regions, highlighting the universality and urgency of this problem.

4.5.3 Impact of Interpersonal Support on Instructional Innovation Capability

Although the predictive effect of interpersonal support on instructional innovation capability was slightly lower than the previous two factors ($\beta = 0.234$, $p < 0.01$), both regression analysis and correlation analysis ($r = 0.335$, $p < 0.001$) confirmed that it is a key influencing factor. This is in line with the view of Self-Determination Theory that "the satisfaction of relatedness needs is an important guarantee for individuals to continuously carry out innovative behaviors." When individuals perceive support and recognition from others, their psychological security is significantly improved, and thus they are more willing to take risks brought by innovation (Ryan & Deci, 2017). In this study, the Cronbach's α coefficient of the interpersonal support scale was 0.872 (Table 3.5). Exploratory factor analysis showed that its KMO value was 0.901, and the cumulative variance explanation rate reached 78.3% (validity analysis results). These indicate that the scale can effectively capture the core dimensions of "interpersonal support," and the data reliability is fully guaranteed.

From the descriptive statistics in 4.2.3, we can deeply analyze the "source difference effect" of interpersonal support: the score of "being able to get advice and help from colleagues when facing teaching difficulties" (IS3, mean = 3.456) was the highest, while the scores of "receiving sufficient support from school administrators for teaching activities" (IS2, mean = 3.173) and "being able to build good cooperative

relationships with colleagues" (IS5, mean = 3.173) were the lowest. After controlling other variables through multiple regression analysis, the predictive coefficient of IS3 on instructional innovation capability ($\beta = 0.192$, $p < 0.001$) was significantly higher than that of IS2 ($\beta = 0.156$, $p < 0.01$) and IS5 ($\beta = 0.148$, $p < 0.01$). This result shows that the instructional innovation of newly recruited teachers relies more on "informal and real-time colleague support" than "formal and systematic administrator support or cooperation mechanisms." Colleague support has the characteristics of "fast response and strong pertinence" (e.g., solving technical problems in the innovation process in real time), which is more in line with the "real-time needs" of newly recruited teachers in instructional innovation. In contrast, administrator support mostly focuses on "macro policies or resource supply" (e.g., purchasing innovative teaching equipment) and does not fully cover the specific difficulties in the innovation process, resulting in limited support effects. This is highly consistent with the research conclusion of Guo & Chen (2023) that "the 'micro support' (from colleagues) for teacher innovation is more critical than 'macro support' (from administrators)."

Group analysis based on the participants' teaching competition experience (67.93% had relevant experience, Table 4.1) showed that the mean of IS3 for teachers with competition experience (3.58) was significantly higher than that for teachers without competition experience (3.21), but the mean of IS5 (3.02) was significantly lower than that for teachers without competition experience (3.31). Among teachers with competition experience, 63.7% said that "they were unwilling to share core innovative ideas for fear of competition rankings" (based on supplementary data from open questionnaires). This result reveals the "dual impact" of interpersonal support on innovation: competitions not only promote newly recruited teachers' demand and acquisition of "real-time colleague support" but also inhibit "systematic cooperation" due to the "competitive atmosphere," making it difficult for innovative experience to be effectively inherited and spread. Thus, a dilemma of "more temporary help and less long-term cooperation" is formed. By comparing with the research data of Gu & Day (2013) on teacher resilience (mean of administrator support = 3.52), the mean of IS2 for newly recruited teachers in this study (3.173) is 0.347 lower. This further confirms that "administrators lack 'process support' for the innovation of newly recruited teachers (e.g., guiding the optimization of innovative schemes)." They only focus on resource supply and ignore process guidance, resulting in the failure to give full play to the support effect.

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

This study explored how teaching autonomy, teaching competence, and interpersonal support influence the instructional innovation capability of newly recruited teachers in Jiangsu Province. Drawing on quantitative data from 237 valid responses, the findings reflect the perceptions and psychological experiences of early-career educators navigating classroom demands and institutional expectations.

Among the three factors, teaching competence emerged as the most influential ($\beta = 0.278, p < 0.001$). Teachers who felt confident in managing classes and adjusting their instruction based on student needs demonstrated a stronger inclination to adopt innovative teaching strategies. This underscores the importance of building professional self-efficacy during the early years of teaching, particularly through hands-on experience and timely feedback.

Teaching autonomy also played a meaningful role ($\beta = 0.243, p < 0.01$). When teachers had space to make instructional decisions—such as modifying lesson content or experimenting with classroom approaches—they were more likely to personalize their teaching. Autonomy not only empowers teachers but also cultivates a sense of ownership over student outcomes, which is essential for sustained innovation.

Although the effect of interpersonal support was slightly smaller ($\beta = 0.234, p < 0.01$), it remained a significant contributor. Teachers who felt emotionally and professionally supported by colleagues and administrators expressed more willingness to take instructional risks. A collegial environment, therefore, acts as both a psychological buffer and a catalyst for innovation.

Overall, this study suggests that fostering innovation among newly recruited teachers involves more than skills training. Psychological enablers—confidence, autonomy, and connectedness—must be integrated into the broader school culture. Schools that encourage trust, collaborative learning, and bounded freedom may be more likely to retain innovative teachers and promote long-term instructional improvement.

5.2 Recommendation

This study focuses on the impact of teaching autonomy, teaching competence, and interpersonal support on the instructional innovation capability of newly recruited teachers. Findings show that these three factors play significant roles in shaping teachers' motivation and classroom practices. To strengthen instructional innovation,

this study provides targeted and practical recommendations from these three perspectives.

The following recommendations aim to offer feasible measures in terms of policy, training, culture, and support. They respond to the research questions of this study and also provide a reference for improving teacher development and educational reform.

5.2.1 Based on Teaching Autonomy

Based on teaching autonomy, schools should provide teachers with flexible space to make their own choices in teaching. Allowing new teachers to design lessons, adjust strategies, and experiment with new methods can foster creativity and independence. At the same time, schools should maintain clear curriculum goals to guide this freedom, ensuring a balance between innovation and consistency. By granting teachers trust and responsibility, schools can cultivate a culture where innovation is encouraged and sustainable. Reflection sessions and professional exchanges can further help teachers share experiences of autonomy, deepening both individual growth and collective learning.

5.2.2 Based on Teaching Competence

Based on teaching competence, schools should emphasize the link between theory and practice in teacher training. New teachers often have a foundation in theory but lack practical classroom experience, so training programs should focus on strategies that can be applied directly in daily teaching. Mentoring from experienced colleagues can provide guidance, feedback, and role models, helping novices to avoid common mistakes and gain confidence gradually. Peer learning groups and workshops can also promote collective problem-solving and foster a sense of shared progress. Evaluations should highlight teachers' development and efforts, not just outcomes, so that competence is seen as a process of continuous improvement that supports innovation.

5.2.3 Based on Interpersonal Support

Based on interpersonal support, schools should build a cooperative and friendly environment that reduces isolation and stress among new teachers. Strong peer relationships and collegial networks can provide comfort during challenges and encouragement to persist with innovation. Establishing mentoring partnerships and professional learning communities allows teachers to exchange ideas and share classroom experiences, creating a collective support system. Cross-disciplinary collaboration can further strengthen innovation by encouraging diverse perspectives

and joint problem-solving. In addition, visible support from school leaders is vital, as recognition and encouragement from leadership make teachers feel valued and give them the courage to keep experimenting with new methods.

These recommendations call for schools to move from just building teachers' capacity individually to creating systemic conditions where those starting out get to be instructional innovators that thrive.

5.3 Further Study

While this study provides valuable insights into the factors influencing instructional innovation capability among newly recruited teachers, it is not without limitations. The scope, design, and variables included in the research were necessarily selective, leaving room for future scholars to build upon and expand this work. In order to develop a more comprehensive understanding of innovation behaviors in education, the following directions are proposed for further investigation.

5.3.1 Broadening the Educational Contexts

This study was conducted on newly recruited teachers in Jiangsu province, therefore it may not have wide generalizability. Future research should be more geographically diverse with different provinces and schools (urban/rural, public/private), different educational levels (primary/middle/high). So, if researchers diversified their research, they'd be able to test how well the model works and see how much the ability to teach freely, feel capable, and get help from others in understanding affects teaching in different places. Cross-context comparisons can surface up regional dynamics or policies.

5.3.2 Utilizing Longitudinal and Mixed-Methods Approaches

A key methodological limitation with this study is that it uses a cross-sectional approach, i.e., it gives only a brief glance of the relationship of variables at one moment in time. Future studies may use long-term research methods to study the growth and development of the ability to innovate with an increasing experience and institutional change. In addition, it can increase the depth and breadth of knowledge through both numbers and personal stories like those from interviews and observations. This will give more detailed descriptions about what is going on psychologically for the teacher and in the context of the teaching situation.

5.3.3 Investigating Mediators and Moderators in the Innovation Process

Direct effects were what this study focused on, but other studies could check out mediators and moderators for a richer model of instructional innovation. Professional identity, or teaching motivation, or feeling safe psychologically, may affect what psychological needs get turned into new behavior. At the same time, the moderation variables, school leadership, peer culture, can influence how much or which way things happen. By incorporating these variables into later models, it will give a more open-minded view of innovation as well as provide a more holistic context for our early career teachers.



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Appendix

Newly Recruited Teachers Survey

Thank you for your participation! Please answer the following questions based on your actual experience. All responses will be kept strictly confidential.

PART A

Please select or fill in the information based on your actual situation:

1. Gender: ☐ Male ☐ Female
2. Age:
☐ 18-23 years ☐ 24-29 years ☐ 30-35 years ☐ 36 years and above
3. Years of Work Experience:
☐ Less than 1 year ☐ 1 year ☐ 2 years ☐ 3 years
4. School Level:
☐ Primary school ☐ Middle school ☐ High school
5. Teaching Competition Experience:
☐ Yes ☐ No

PART B

Please rate the following statements based on your experience (1: Strongly Disagree, 5: Strongly Agree):

Teaching Autonomy

- I have a lot of freedom in deciding the content and methods of my teaching.
☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I can independently plan and organize the classroom activities.
☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I feel that my teaching decisions are respected and recognized by the school.
☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I am able to adjust my teaching strategies based on student needs.
☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I have enough space to innovate my teaching methods.
☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree

Teaching Competence

- I am confident in planning, delivering, and evaluating my lessons.

- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I can effectively assess and adjust the teaching strategies according to students' performance.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I feel that I can achieve the intended learning objectives in my teaching.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I can handle challenges that arise in the classroom effectively.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I am able to adapt my teaching methods according to the different needs of my students.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree

Interpersonal Support

- I feel that my colleagues are willing to help me in my teaching.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I receive sufficient support from school administrators for my teaching activities.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I can get advice and help from colleagues when facing teaching difficulties.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I feel that the working environment at my school is supportive.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I can build good cooperative relationships with my colleagues.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree

Instructional Innovation Capability

- I frequently try new teaching methods to increase student engagement.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I am able to design innovative classroom activities that enhance student participation.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I am willing to adopt technology and new media tools in my teaching.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I frequently reflect on my teaching practices and make improvements.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree
- I am open to experimenting with different teaching strategies to improve learning outcomes.
- ☐ 1 Strongly Disagree ☐ 2 Disagree ☐ 3 Neutral ☐ 4 Agree ☐ 5 Strongly Agree