ORIGINAL ARTICLE

What Kind of Novice Teachers Would Prefer the Autonomy-Supportive Teaching Method? An Empirical Study Based on Large-Scale Research Data

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***Abstract**: Given that autonomy-supportive teaching has the potential to enhance students' learning motivation and promote their self-development, it is of immense value and far-reaching significance to assist novice teachers in mastering and employing this teaching method effectively. The study employs multi-variable linear regression to analyze the factors influencing novice teachers' use of the autonomy-supportive teaching method and Shapley value decomposition to reveal the contribution rate of each variable. The analysis is based on data extracted from a large-scale survey of urban districts. The findings of the study are as below: (i) Scientific research literacy, professional knowledge, professional competence, and job satisfaction have a significant impact on novice teachers' adoption of the autonomy-supportive teaching method; (ii) the greatest impact is exerted by scientific research literacy, followed by professional competence and professional knowledge. Therefore, teacher professional development is the key to the successful implementation of autonomy-supportive teaching by novice teachers, while environmental support is the path. To accomplish this, it is necessary to improve their scientific research literacy and emphasize the application of their scientific research results; expand their professional knowledge and skills; increase the frequency of in-service training and create a positive development environment; encourage professional exchanges and eliminate utilitarian competition; and motivate teachers' pursuit of life meaning and attend to their emotional needs.*

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Research Proposal and Literature Review

STUDENTS' self-motivation in learning and capacity for their self-development have attracted a great deal of public attention as education and teaching reforms intensify. In the classroom, however, overly utilitarian, dubious teaching practices such as "cramming" and "teacher-centered instruction" are still prevalent. Consequently, education becomes an activity of indoctrination and spiritual segregation (Hu, 2010). Prior research has demonstrated a decline in learning motivation and a worsening learning experience among Chinese elementary and secondary school students as they progress through the grades (Yuan et al., 2015). In this context, it is asserted that autonomy-supportive teaching can meet students' fundamental psychological needs, encourage their learning motivation, alter their negative emotions, and thereby increase their academic inputs and enhance their academic outcomes (Wang & Zhao, 2022). "Autonomy-support" refers to the support for students' self-directed learning, which is a central concept underlying Deci's 1980s self-determination theory. Based on self-determination theory, some scholars have defined autonomy-supportive teaching as an instructional method in which teachers in the authoritative position are receptive to students' opinions, capable of perceiving their thoughts and understanding of subject matter and willing to provide them with information and options without acting coercively or mandatorily (Deci & Ryan, 1985). Regarding the operational definition of the autonomy-supportive teaching method, Assor et al.'s (2005) proposal has been well received in both China and other nations; it proposes dividing teachers' autonomy-supportive behaviors into three distinct dimensions, namely encouragement of student independent thought, establishment of meaning and connection, and support for interest development. In the present study, autonomy-supportive teaching is defined as a method of instruction that encourages students to think independently and inquire actively in order to facilitate their knowledge internalization, stimulate their learning motivation, and increase their self-development potential.

The teacher is one of the key players in the educational process, as demonstrated by earlier studies (Hattie, 2015). Compared to more seasoned educators, new teachers are at a unique and crucial point in their careers where they must overcome obstacles, problems, and uncertainties in order to pursue survival and improved development (Clark, 2012). The most common definition of a novice teacher is one who has not been in the classroom for more than three or five years. New teachers in this study are individuals with fewer than five years of classroom experience. Early training and development experiences for novice teachers often have a stronger impact on their entire teaching careers than later experiences do (Xie & Zou, 2015). Investigations into the variables that influence rookie teachers' adoption of

autonomy-supportive teaching may yield more useful and constructive suggestions and recommendations for motivating and assisting novice teachers to master this teaching strategy.

Research on the precise elements affecting novice teachers' use of the autonomy-supportive teaching style hasn't been studied much up to this point. However, several studies have looked more broadly at the variables influencing teachers' use of autonomy-supportive teaching. These influencing elements can be loosely separated into two categories: those relating to the external environment and those that are personal to the teachers themselves. On the basis of the common-sense paradigm (Marsh, 1996), which emphasizes the positive correlations between the two (e.g., scientific research can inspire the invention of teaching methods; Neumann, 1992), several researchers have explored the relationships between teaching and scientific research in the former case. In eight colleges and universities in the United Kingdom, Kent conducted a study of the professors and students in four majors. The results showed that research has a good impact on teaching and vice versa (Kent, 2001). Research findings revealed the positive correlations between teachers' subject-matter expertise and teaching methodology expertise and their educational quality (Chen, 2019), and the prevalence of cognitive psychology has also inspired scholars to consider the potential impact of teachers' internal cognitive processes on their educational behaviors (Lin, 2007). Additionally, the behavioral theory claims that an individual's competence can be represented in their particular behaviors when carrying out professional responsibilities (Liu, 2018), which can account for the influence of a teacher's professional competence on their teaching behaviors. The field theory suggests that some fields have an impact on everyone's behavior in terms of the external environment. In their industries, beginning teachers are frequently exposed to issues with administration, coworkers, workload pressure, and other external variables. In He's (2007) investigation into the connections between teaching approach and job satisfaction, indicators for job satisfaction included workload, interpersonal relationships, and satisfaction with school leadership. The study's findings showed that teachers with higher levels of job satisfaction tended to use creative, critical, radical, and integral teaching strategies. We identify scientific research literacy, professional knowledge, and professional competence as personal factors and work satisfaction as an external factor in the adoption of the autonomy-supportive teaching approach by novice teachers based on the aforementioned theories and literature study.

Currently, the majority of quantitative research on autonomy-supportive teaching focuses on its effect on students' learning motivations, while lesser studies examine the factors that influence teachers' adoption of the method from the teacher's perspective. In addition, the majority of researchers have only examined the factors influencing teachers' use of the

autonomy-supportive teaching method in a single dimension, such as the dimension of teaching efficacy, whereas few have examined the factors from a multidimensional perspective that includes scientific research literacy, professional knowledge, and professional competence. In addition, numerous studies have included teachers with varying lengths of experience in their samples, while few have focused on novice educators. The current study utilized data from a large-scale survey in urban districts of X City and employed the multi-variable linear regression model to evaluate the influences of novice teachers' demographic characteristics, scientific research literacy, professional knowledge, professional competence, and job satisfaction on their adoption of the autonomy-supportive teaching method; it also determined the contribution rate (weight) of each factor via Shapley value decomposition.

Research Design

This study investigated the influencing factors in novice teachers' adoption of the autonomy-supportive teaching method from three perspectives, namely, the demographic characteristics of novice teachers, personal factors, and environmental factors, in order to reveal the basic features of novice teachers who are pro to the autonomy-supportive teaching method and to make improvement suggestions for their teaching techniques.

Research Subjects

The participants of this study are novice teachers serving in kindergartens and primary and secondary schools in X City who were randomly selected to take part in the questionnaire survey on novice teachers' career development administered by the Education Bureau of X City. After screening the retrieved questionnaires, a total of 2,290 subjects with valid data were eventually obtained.

Research Tools

The questionnaires used in the survey were self-created or adapted versions of existing ones, with substantial reliance on the OECD's teacher questionnaire to determine the substance of novice teachers' professional development. The poll also includes a section on basic information for teachers and other associated metrics.

In this study, the dependent variable is the autonomy-supportive teaching method. We developed the Autonomy-Supportive Teaching Method Questionnaire in accordance with the classification of teachers' autonomy-supportive behaviors from Assor et al. (2005): encouragement of student independent thought, establishment of meaning and connection, and support

for interest development. From relevant investigations by Liang et al. (2020), Zeng and Huang (2014), Niu (2021), and Lai (2020), ten questions were extracted. Cronbach's alpha coefficients for the questionnaire and the three factors are 0.876, 0.772, 0.809, and 0.839, while the composite reliability of the three dimensions is 0.839, 0.820, and 0.851, all of which are greater than 0.82 and therefore satisfy the criterion. The intra-group convergent validity is 0.566, 0.604, and 0.657, which are all greater than 0.56 and therefore satisfy the criterion. Each dimension has a CFI greater than 0.90 and an RMSEA less than 0.08, indicating that the model's goodness of fit is relatively high.

The explanatory variables include the demographic characteristics of novice teachers, their scientific research literacy, their professional knowledge, their professional competence, and their job satisfaction. Novice teacher demographic characteristics include their gender and in-service training. The four sub-dimensions of scientific research literacy are scientific research knowledge, scientific research practice and innovation, scientific research character, and scientific research attitude. The model meets the criteria with a Cronbach's alpha of 0.74 and a composite reliability of 0.66. We divided teacher professional knowledge into four sub-dimensions based on the Professional Standards for Secondary School Teachers (2012) and pertinent queries from Zhang's (2018) study: educational knowledge, disciplinary knowledge, teaching methodology knowledge, and general knowledge. This variable meets the criteria with a Cronbach's alpha of 0.89, composite reliability of 0.900, and intra-group convergent validity of 0.563. In addition to consulting the Professional Standards for Secondary School Teachers 2012, we extracted pertinent question items from the Niu (2021), Zhang (2018), Zhu (2020), and Jia (2020) studies when measuring teacher professional competence. The six sub-dimensions of teacher professional competence are: teaching design, teaching implementation, class administration, teaching evaluation, communication and cooperation, and reflection and improvement. The aggregate Cronbach's alpha coefficient is 0.900, the composite reliability is 0.902, and the intra-group convergent validity is 0.481, so the criteria are met. Teacher job satisfaction is comprised of satisfaction from school leadership and management, the professional development environment, salaries and perks, self-actualization, and work relationships, and their Cronbach's alpha coefficients are all greater than 0.8 and meet the criteria; the intra-group convergent validity of each sub-dimension is 0.843, 0.762, 0.655, and 0.604 and resembles the criteria.

The contents of the questionnaires were subjected to a common method bias check and Harman's single factor test, and the findings revealed that the variance explained by the first common factor is 38.46%, which is less than the crucial value of 40%. As a result, this study had no major common method biases.

Analysis Methods

OLS Multi-variable Regression Model

To assess the impact of each component on novice teachers' adoption of the autonomy-supportive teaching style, OLS multiple regression was used. The estimate is made using the ordinary least square regression model (OLS), as the dependent variable of the autonomy-supportive teaching style is a continuous variable. The following is established as the fundamental estimation model for this study:

$$Y_i = \beta_0 + \beta_{1demograph} + \beta_{2individual} + \beta_{3environment} + \varepsilon_i$$

Y_i denotes the autonomy-supportive teaching method, $\beta_{1demography}$ represents the demographical characteristics of the novice teachers, $\beta_{2individual}$ signifies personal factors in the novice teacher's adoption of autonomy-supportive teaching, $\beta_{3environment}$ indicates environmental factors, and ε_i and β_0 represent random disturbance and intercept, respectively.

Shapley Value Decomposition

Shapley value decomposition was administered to evaluate the weight of each variable that significantly influences the novice teacher's adoption of the autonomy-supportive teaching method, as the ordinary least squares method is unable to decompose the contribution of the influencing factors.

Results and Discussion

Research Results

Statistical Descriptions of Variables

According to the statistical descriptions of variables (**Table 1**), the majority of novice teachers are female. The average value of the variable of in-service training is comparatively low, indicating that most novice teachers receive infrequent training and have limited opportunities for professional development. Refer to **Table 1** for a description of the basic features of each variable.

Table 1. Statistical Descriptions of Variables (N=2290).

Variables		Variable Types	Minimum	Maximum	Mean	SD
Dependent Variable	Autonomy-Supportive Teaching Methods	Continuous Variable	2.13	5	4.28	0.56
Demographic Characteristics	Gender	Categorical Variable	1	2	1.83	0.38
	In-Service Training	Continuous Variable	1	4	2.38	0.98
Personal Factors	Scientific Research Literacy	Continuous Variable	1.67	5	4.27	0.62
	Professional Knowledge	Continuous Variable	1.43	5	4.36	0.55
	Professional Competence	Continuous Variable	2.60	5	4.30	0.51
Environmental Factors	Job Satisfaction	Continuous Variables	1.35	5	4.29	0.57

Table 2. Multivariate Linear Regression Results (Dependent Variable: the Autonomy-Supportive Teaching Method).

Variables		Model 1	Model 2	Model 3
Demographic Characteristics	Gender	-0.014 (0.031)	0.001 (0.016)	0.001 (0.016)
	In-Service Training	0.183*** (0.012)	0.008 (0.007)	0.008 (0.006)
Personal Factors	Scientific Research Literacy		0.451*** (0.015)	0.440*** (0.015)
	Professional Knowledge		0.119*** (0.017)	0.117*** (0.017)
	Professional Competence		0.370*** (0.020)	0.352*** (0.021)
Environmental Factors	Job Satisfaction			0.059*** (0.012)
Intercept		4.064	0.198	0.092
Sample Size		2290	2290	2290
R^2		0.034	0.724	0.727
Adjusted R^2		0.033	0.723	0.726
F		40.084***	1197.851***	1011.099***

*Notes: (1) The table shows standardized coefficients; (2) Bracketed contents are standard errors; (3) *p < 0.05; **p < 0.01; and ***p < 0.001.*

Results of Regression Analysis of Factors Influencing Teachers' Adoption of the Autonomy-Supportive Teaching Method

To build and evaluate the model, this study used the multivariate linear regression approach with SPSS 26.0. Stratified regression was utilized to in-

clude variables such as novice teachers' demographic traits, personal aspects, and environmental factors. The model test results indicate an R2 of 0.727 and a modified R2 of 0.726, showing a moderately good explanatory value; the model's regression findings are statistically significant. The collinearity diagnostics (VIF value) suggest that the regression equation has no severe collinearity, and the scatter plot shows that the regression equation has no heteroscedasticity. Refer to **Table 2** for more detailed regression analysis results.

Discussion

Demographic Characteristics of Novice Teachers

The regression results demonstrate that there is no significant gender difference in novice teachers' adoption of the autonomy-supportive teaching approach, which coincides with Liang et al.'s (2020) research findings but contradicts those of Ma et al. (2018). According to Ma et al., there is a gender difference in teachers' preferences for autonomy-supportive teaching methods: male teachers are more inclined to follow the control orientation and take actions in accordance with external and their own requirements, and thus are more likely to develop the motive of control; on the other hand, their female counterparts prefer the autonomous orientation and tend to take actions in accordance with their hearts or intentions, and thus are more likely to develop the motive of autonomy. According to other research, female professors prefer to use a structured teaching method, whereas male teachers typically encourage students to innovate and ask creative and difficult questions (Xu & Fu, 2005). Gender disparities in teaching methods have long been a contentious and inconclusive subject. Due to the limited proportion of male teachers in the sample, we concur that the variable of gender does not approach statistical significance in this study.

The in-service training variable's regression coefficient demonstrates a statistically significant positive effect, demonstrating how in-service training improves new teachers' abilities to instruct in a way that supports autonomy. In their study, Tessier et al. (2010) found that education on the benefits of autonomy support and training on autonomy-supportive teaching can improve teachers' autonomy-supportive behaviors. Relevant intervention research also found that teachers who have received training on autonomy-supportive teaching perform better when using this method (Decharms, 1976; Williams & Deci, 1996). Therefore, new teachers may effectively learn and apply the autonomy-supportive teaching approach through in-service training, which is consistent with the results of the current study. It is noteworthy that the in-service training possibilities available to the rookie teachers sampled for this inquiry are minimal and that in-service training occurs only oc-

casionally. Thus, a key technique for motivating new teachers to use the autonomy-supportive teaching method should be to increase the frequency of training events and provide more opportunities for professional development.

Personal Factors

The implementation of autonomy-supportive teaching by novice teachers is significantly influenced by scientific research literacy, professional knowledge, and professional competence. This influence is statistically significant at a level of 0.01. The net explanatory value of personal factors was determined to be 69% by subtracting the value of R2 in model 1 from that in model 2. This value is significantly higher than that of demographic characteristics and environmental factors, suggesting that personal factors play a crucial role in promoting autonomy-supportive teaching and transforming teaching methods.

According to the standardized coefficients of personal factors shown in **Table 2**, the coefficient of teacher scientific research literacy has the highest value, indicating that the higher teachers' scientific research literacy, the more likely teachers are to use the autonomy-supportive teaching method, which is consistent with the findings of Gu et al.'s (2007) study. They discovered that teachers who focus on scientific research do a better job of improving teaching results and inspiring students than those who focus on information delivery. In their study, Coate et al. (2001) discovered that research-oriented teachers convey disciplinary knowledge, but non-research-oriented teachers just teach students how to pass tests. We believe that the overwhelming effect of teacher scientific research literacy stems from the fact that scientific research activities are, at their core, exploratory behaviors and that novice teachers with high scientific research literacy are more innovative, open, and inquisitive, making them more likely to encourage students to learn, think, and explore independently. The extremely high R2 value in this study suggests the presence of an endogenous factor, implying that scientific research and instruction are mutually causative and symbiotic (Neumann, 1992). Previous research, such as Kent's (2001) study on teachers and students in four majors from eight colleges and universities in the United Kingdom, has confirmed this. According to other studies, the promotional effect of scientific research on teaching is significantly stronger than that of teaching about scientific research (Zhang & Wu, 2009), emphasizing the necessity of good scientific research literacy for teachers.

A study has indicated that there exists a positive correlation between the level of professional competence of teachers and their inclination towards utilizing the autonomy-supportive teaching approach (Ma et al., 2018). Additionally, it has been found that teaching competence is significantly and positively associated with the teacher's adoption of "student-centered" teach-

ing models (Yang & Xu, 2015). Novice teachers who possess enhanced professional proficiency tend to acquire advanced scientific knowledge in education and discipline and possess a more profound comprehension of the significance of "student-centered" autonomy-supportive pedagogy in fostering students' learning effectiveness and sustainable growth, in contrast to authoritarian teaching methodologies.

Environmental Factors

The findings from the stratified regression analysis presented in **Table** 2 indicate a statistically significant and positive association between job satisfaction and the use of autonomy-supportive teaching methods in novice teachers. This result is in line with He's (2007) research, which similarly found a positive and significant correlation between teachers' job satisfaction and their implementation of innovative and unconventional teaching approaches. This study investigated the impact of various factors, including teacher satisfaction with school leadership and management, the professional development environment, salaries and perks, work relationships, and self-actualization, on teachers' implementation of autonomy-supportive teaching. The findings, presented in **Table 3**, align with prior research. **Table 3** demonstrates that the adoption of autonomy-supportive teaching methods by teachers is significantly influenced by their satisfaction with self-actualization, work relationships, and professional development environments. As per Maslow's hierarchy of needs theory, the pinnacle of human needs is the requirement for self-actualization. Novice teachers who possess a strong desire for self-actualization and are committed to pursuing a career are more inclined to embrace the autonomy-supportive teaching approach. This is because of its efficacy in elevating students' motivation to learn and augmenting their academic proficiency, which, in turn, results in spiritual benefits for teachers and enhances their professional welfare. The study conducted by Roth et al. (2007) revealed a significant association between the sense of accomplishment experienced by educators and their inclination towards embracing the autonomy-supportive pedagogical approach. According to Ma et al. (2018), teachers are more likely to engage in autonomy-supportive teaching when they feel satisfied with the extent to which their personal competence is utilized in the teaching process. Furthermore, as per Mayo's theory on interpersonal relationships, individuals are considered to be "social creatures" who strive to fulfill not only their materialistic requirements but also their social and psychological necessities, such as companionship and a feeling of inclusion (Liu, 2010). Establishing a harmonious relationship between teachers and students, as well as fostering a cooperative and supportive relationship among colleagues, can facilitate a sense of belonging for novice teachers in their teaching endeavors. This, in turn, can enhance their motivation to pri-

Table 3. Influences of the Working Environment on Novice Teachers' Adoption of the Autonomy-Supportive Teaching Method.

	Encouragement of Independent Thinking	Establishment of Meaning and Connection	Support for Interest Development	Total Scores for Autonomy-Support
Satisfaction from School Leadership and Management	0.050 (0.036)	0.036 (0.033)	0.057* (0.034)	0.052 (0.030)
Satisfaction from Professional Development Environment	0.039 (0.038)	0.067* (0.035)	0.094*** (0.036)	0.075** (0.032)
Satisfaction from Salaries and Perks	-0.074*** (0.025)	0.010 (0.023)	-0.058** (0.024)	-0.041 (0.021)
Satisfaction from Work Relationships	0.162*** (0.038)	0.121*** (0.035)	0.179*** (0.036)	0.169*** (0.032)
Satisfaction from Self-Actualization	0.255*** (0.036)	0.237*** (0.034)	0.210*** (0.035)	0.259*** (0.030)
Control Variables	Yes	Yes	Yes	Yes
Intercept	2.013	2.079	1.882	1.996
Sample Size	2290	2290	2290	2290
R^2	0.166	0.181	0.196	0.222
Adjusted R^2	0.165	0.180	0.195	0.221
F	75.050***	89.944***	92.995***	112.272***

*Notes: (1) The table presents standardized coefficients; (2) Bracketed contents are standard errors; (3) *p < 0.05; **p < 0.01; and ***p < 0.001.*

oritize students' needs and provide sustained support for their overall growth and development. Moreover, the noteworthy impact of contentment derived from the professional development milieu suggests that enhancements in professional development prospects and the heightened significance attributed to teacher professional development by educational administrators will encourage inexperienced educators to maximize their pedagogical abilities. As previously stated, educators who possess greater teaching competence may exhibit superior performance in the provision of autonomy-supportive instruction (Ma et al., 2018). The provision of superior resources and conducive working conditions for the professional growth of novice teachers can foster their adoption of autonomy-supportive pedagogy.

Contribution Rates of the Factors Influencing Novice Teachers' Adoption of the Autonomy-Supportive Teaching Method Based on Shapley Value Decomposition

The analysis incorporated Shapley value decomposition to effectively demonstrate the diverse significance of each variable. **Table 4** displays the rate of contribution for each individual factor.

The data presented in **Table 4** offers support for further analysis of the contribution rates of all variables. The findings indicate that novice

Table 4 Shapley Values for the Autonomy-supportive Teaching Method.

Explanatory Variables	Shapley Value	Percent
Gender	0.00011	0.02%
In-Service Training	0.00828	1.14%
Scientific Research Literacy	0.27230	37.48%
Professional Knowledge	0.14379	19.79%
Professional Competence	0.23938	32.95%
Job Satisfaction	0.06271	8.63%
Total	0.72657	100.00%

teachers' scientific research literacy and professional competence possess greater explanatory power, accounting for 37.48% and 32.95% of the variance, respectively, with professional knowledge following at 19.79%. In general, novice teachers' adoption of the autonomy-supportive teaching method is more significantly influenced by personal factors than environmental factors.

Conclusion and Suggestions

Research Findings

The study utilizes a multi-variable linear regression model and the Shapley value decomposition method to investigate the impact of demographic characteristics, personal factors, and environmental factors on the adoption of autonomy-supportive teaching methods by novice teachers, based on large-scale survey data. The results indicate that there is a positive correlation between the amount of in-service training provided to novice teachers and their level of support for promoting student autonomy in learning. The utilization of autonomy-supportive teaching methods by novice teachers is significantly and positively influenced by their scientific research literacy, professional knowledge, and professional competence. The present study suggests that novice teachers' implementation of autonomy-supportive teaching is most significantly influenced by their satisfaction with self-actualization, work relationships, and professional development environments, among all environmental factors. The variable of scientific research literacy has the highest contribution rate, followed by professional competence and professional knowledge.

Suggestions

Strengthening Novice Teacher Professional Development

- *Enhancing the Scientific Research Literacy of Novice Teachers and Highlighting the Application of Scientific Research Results*

During the initial stages of their teaching profession, it is crucial for novice teachers to cultivate favorable dispositions towards scientific research. Hence, it is imperative for educational institutions to establish an encouraging scientific research milieu that can stimulate the interest of novice teachers towards scientific research. According to Chen and Yu (2019), active participation in research projects could be the most efficient approach towards enhancing one's scientific research literacy in the initial few years. Simultaneously, it is imperative to enhance the incentive structure to ensure that scientific research prioritizes tackling pragmatic educational concerns rather than solely pursuing career advancements. Furthermore, it is crucial to not solely prioritize the dissemination of scholarly articles but also the implementation of scientific research findings in educational contexts.

- *Expanding Novice Teachers' Professional Knowledge and Improving Their Professional Competence*

Novice teachers have a great opportunity to improve their teaching techniques by acquiring cutting-edge and extensive professional knowledge. Professional knowledge expansion can be a lifelong journey that enhances one's career. Novice teachers have the exciting opportunity to learn advanced educational theories and explore literature on the autonomy-supportive teaching method at the beginning of their careers. It is great to know that novice teachers can learn practical knowledge and gain experience from successful anchor teachers who implement autonomy-supportive teaching. This can be achieved through senior-junior teacher pairings and lesson observations. With years of practice in autonomy-supportive teaching and continuous reflection on teaching experiences, their professional competence is sure to improve.

Consolidating Environmental Support

- *Increasing in-Service Training Opportunities and Creating Positive Professional Development Environments*

Increasing the frequency of in-service training sessions is a viable strategy for facilitating the acquisition of proficiency in the autonomy-supportive pedagogical approach among novice teachers. Consequently, educational institutions are expected to arrange targeted professional development oppor-

tunities focused on fostering autonomy-supportive teaching. The optimization of training in autonomy-supportive teaching can be achieved by following the four distinct steps of the experiential learning theory: concrete experience, reflective observation, abstract conceptualization, and active experimentation.

- *Encouraging Professional Exchanges among Novice Teachers and Eliminating Over-Utilitarian Competition*

The creation of a positive work relationship has been shown to have a positive impact on the motivation and emotional well-being of novice teachers. To this end, schools should prioritize the establishment of a positive cultural environment, the development of a collaborative learning community, and the facilitation of professional exchanges among novice teachers.

- *Motivating Teachers' Pursuit of Life Meaning and Paying Attention to Their Emotional Experiences*

It is imperative for educational institutions to remain vigilant against an excessive focus on efficiency. In lieu of the aforementioned, it is anticipated that individuals will prioritize the principles of humanism within the context of teacher-student emotional interactions, implement a democratic approach to management, reduce inflexible performance metrics, and eliminate superfluous bureaucracy. By means of educational reform implemented within schools, in-service training, and educational research, it is possible for schools to facilitate the development of novice teachers' self-efficacy and self-actualization in their teaching profession.

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