TEACHERS' COMPETENCIES MODEL DEVELOPMENT IN ART EDUCATION IN UNIVERSITIES OF SHENYANG CITY UNDER LIAONING PROVINCE

[1]An Na, [2]Sataporn Pruettikul and [3]Sukhum Moonmuang

Bangkokthonburi University, Thailand

[1]15802451860@163.com, [2]pruettikul20@gmail.com, and [3]sukhum.moo@btu.ac.th

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Abstract

The objectives of this research were:(1) to explore the components and indicators of the teachers' competencies in art education in universities of Shenyang city under Liaoning province; (2) to propose the teachers' competencies model on the art education in universities of Shenyang city under Liaoning province. (3) to develop managerial guidelines for the teachers' competencies model on art education in universities in Shenyang city under Liaoning province.

The research was a mixed methodology design quantitative research and qualitative research. The population was 1021 instructors, and 62 administrators in Art Education from 15 colleges and universities under Shenyang City. The sample size was determined by Krejci and Morgan's Table, and obtained by stratified random sampling technique, totaling 287. The key informants was fifteen key informants, included deans, directors, instructors of art education in universities under Shenyang City. The instruments used for data collection included a semi-structured interview form, a five-point rating scale questionnaire, and a Focus group discussion form. The statistics used for data analysis were descriptive statistics and Exploratory Factor Analysis as well as content analysis.

The research found that there were seven components of the teachers' competencies model on the art education in the universities of Shenyang city under Liaoning province which consisted of Adaptability in Teaching, Broad Knowledge Base, Innovative Pedagogical Methods, Leadership in Education, Inclusive Classroom Practices, Timely and Effective Assessment, Engaging Instructional Techniques; and the teachers' competencies model on the art education in the universities of Shenyang city under Liaoning province was the "ABILITE Model", there were seven managerial guidelines of the teachers' competencies model development on the art education in the universities of Shenyang city under Liaoning province, which was confirmed by experts at a high level.

Keywords: Teacher's Competencies; Art Education; Shenyang City

[1] Student in Ph.D. (Leadership in Education Administration) Bangkokthonburi University
[2] Assistant Professor Dr., Faculty of Education, Bankokthonburi University.
[3] Lecturer Dr., Faculty of Education, Bangkokthonburi University.

Introduction

Higher education management in China, as an emerging independent discipline, had a short development history, and its subject system and research methods needed further refinement. Although Liaoning was a province with a substantial higher education sector, it could not be termed a strong educational province. The hierarchical structure of universities and the structure of disciplines and majors were not well-organized, leading to a mismatch between the quality of education and the scale of development. These issues had long plagued the educational development in Liaoning. (Chen Qi, 2007; Di Daiyue, 2009)

Shenyang city, under the province of Liaoning, had implemented a series of measures to improve the quality and efficiency of the education system as part of its comprehensive deepening of educational reform. However, there were challenges with the competency of teachers in art colleges and universities in Shenyang, such as inconsistencies with school development goals and outdated ideological concepts. In response, the "Competency Guidelines for Art Education Teachers in Shenyang Colleges and Universities" had been formulated in the past to effectively enhance the overall quality and teaching ability of the teaching team, thereby promoting the improvement of educational quality. (Guo Cen, 2015)

Research objectives

1. To explore the components and indicators of the teachers' competencies in art education in the universities of Shenyang city under Liaoning province.
2. To propose the teachers' competencies model on art education in the universities of Shenyang city under Liaoning province.
3. To develop the managerial guidelines for the teachers' competencies model on art education in the universities of Shenyang city under Liaoning province.

Research Methodology

This research was divided into three steps as follows;

Step 1: To explore the components and indicators of the teachers' competencies in art education in the universities of Shenyang city under Liaoning province.

The researcher reviewed the literature and related literature researched synthesized relevant articles and summarized some of the components and indicators of teachers' competencies in art universities in Shenyang. And In-depth interviews were conducted with 15 key informants, consisting of 3 deans, 6 directors, 6 instructors of art universities from 15 universities under Shenyang City, by purposive selection.

Step 2: To propose the teachers' competencies model on art education in the universities of Shenyang city under Liaoning province.

In this step, the data collected by a five-point rating scale questionnaire was employed by researcher. The population from 15 universities in Shenyang City, which included instructors, and administrators in art education in the universities of Shenyang city. totaling 1,021. The Sample size was determined by Krejci and Morgan's table (1970), a total of 287, and obtained by stratified random sampling technique, and data analysis by EFA.

Step 3: To develop the managerial guidelines for the teachers' competencies model on art education in the universities of Shenyang city under Liaoning province.

In this step, the managerial guidelines for the teachers' competencies model on art education in the universities of Shenyang City, by focus group discussion with 15 key informants consisting of 3 deans, 6 directors, and 6 instructors of art education from universities under Shenyang City. The researcher will classify and establish selection criteria after purposive selection.

Scope of time Semester Academic years 2023-2024.

Research instruments

Three research instruments were used to three type instruments to examine the objectives namely, (1) a Semi-structured interview, (2) A five-point rating scale questionnaire (3) a Focus group discussion form.

Data collection

(1) Researchers contacted key informants and sent interview questionnaires by email, and telephone.

(2) This part of the questionnaire can be distributed on-site or collected through online links. About 287 questionnaires need to be completed. The sample has been directly informed of the content scope and research objectives, and received a formal permission letter from the university to the administrator and teachers, allowing them to conduct and collect data from the faculty of art education.

(3) Focus group discussions can be conducted on-site, with researchers leading participants and open-ended discussions. the researcher acts as a facilitator.

Data analysis

Data was analyzed by descriptive statistical methods; frequency percentages, and Exploratory Factor Analysis (EFA). To conduct a content analysis on the results of the Focus group discussion to obtain the results of objective 3.

Research Framework

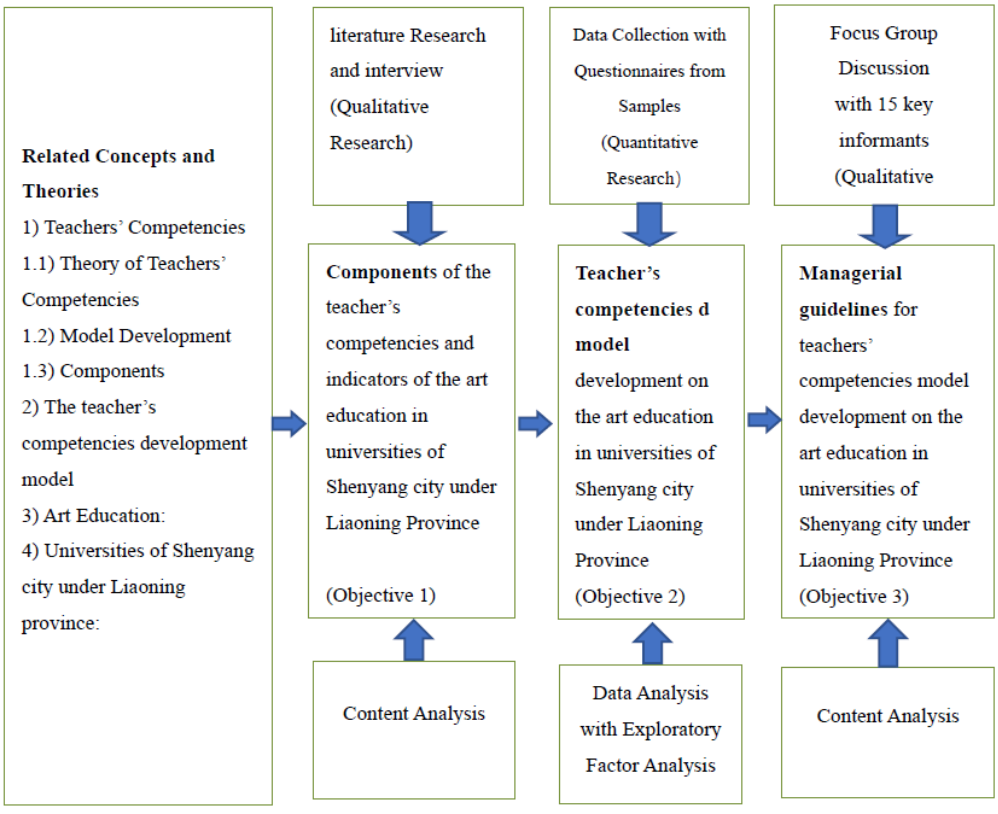

Figure 1 Research framework

Research Result

On the step 1, to explore on the components and indicators on Teachers' competencies and interview from 15 experts, there were 7 components and 66 indicators.

On the step 2, the research built the questionnaire based on the components and indicators from step 1. The validity was between 0.6 to 1.0, the reliability was 0.94.

From collected data result was shown as below:

1) Demographic information

The research focused on art design faculty from Shenyang colleges and universities. Among the 287 respondents, the demographics were categorized as follows: gender, with 125 males (43.6%) and 162 females (56.4%); education level, including 99 undergraduates (34.5%), 109 master's holders (38%), and 79 PhDs (27.5%); work experience, with 135 individuals having 1-3 years (47%), 91 with 4-6 years (31.7%), and 61 with over 6 years (21.3%); position level, comprising 94 educational administrators (32.8%), 57 professors (19.9%), 59 associate professors (20.6%), 53 lecturers (18.5%), and 24 administrative staff (8.4%). The total sample of 287 was fully recovered.

The result of KMO-Meyer-Olkin and Bartlett's Table

Table 1. KMO and Bartlett tests of questionnaires.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.931
Bartlett's Test of Sphericity	Approx. Chi-Square	12826.002
	df	2145
	Sig.	0.000

Data Analysis Result on Questionnaire: Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance.

2) Scale variable validity analysis

Table 2. Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance of the Teacher's Competencies components.

Total Variance Explained									
Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	17.387	26.344	26.344	17.387	26.344	26.344	6.427	9.737	9.737
2	5.441	8.243	34.588	5.441	8.243	34.588	6.328	9.587	19.324
3	4.8	7.273	41.86	4.8	7.273	41.86	6.285	9.522	28.847
4	4.149	6.286	48.146	4.149	6.286	48.146	5.822	8.821	37.667
5	3.67	5.56	53.706	3.67	5.56	53.706	5.729	8.68	46.347
6	3.352	5.079	58.785	3.352	5.079	58.785	5.669	8.589	54.936
7	2.997	4.541	63.326	2.997	4.541	63.326	5.538	8.39	63.326
Extraction Method: Principal Component Analysis.									

From Table 2, In the process of exploratory factor analysis, this study used principal component analysis (Principal Factor Analysis) and randomly extracted 7 common factors with eigenvalues greater than 1. component 1 had a maximum eigenvalue of 26.344, which explained the total variance of 9.737 percent, component 2 had a maximum eigenvalue of 8.243, it can explain the total variance of 9.587 percent, component 3 had a maximum eigenvalue of 7.273, it can explain the total variance of 9.522 percent, component 4 had a maximum eigenvalue of 6.286, explaining the total variance of 8.821 percent, component 5 had a maximum eigenvalue of 5.56, explaining the total variance of 8.68 percent, component 6 had a maximum eigenvalue of 5.079, explaining the total variance of 8.589 percent, component 7 had a maximum eigenvalue of 4.541, explaining the total variance of 8.39 percent, The results showed that the total variance explanation rate of these 7 factors was 63.326%, which is greater than the general standard of 60%. Therefore, it is believed that the validity of the questionnaire scale of this study is good.

Table 3. Data analysis results of the questionnaire.

Order	Components	Number of Variables	Factor Loading
1	Component1	10	0.713-0.775
2	Component2	10	0.709-0.781
3	Component3	10	0.708-0.812
4	Component4	9	0.725-0.827
5	Component5	9	0.699-0.770
6	Component6	9	0.708-0.781
7	Component6	9	0.700-0.780
	Total	66	0.699-0.827

From Table 3, we can see that there are 7 qualified components; Component 1 contains 10 measurement problem description components, with factor loadings between 0.713-0.775; Component 2 contains 10 measurement problem description components, with factor loadings between 0.709-0.781; Component 3 contains 10 measurement problem description components, with factor loadings between 0.708-0.812; component 4 contains 9 measurement problem description components, with factor loadings between 0.725-0.827; component 5 contains 9 measurement problem description components, with factor loadings between 0.699-0.770; component 6 contains 9 measurement problem description components, with factor loadings between 0.708-0.781; component 7 contains 9 measurement problem description components, with factor loadings between 0.700-0.780; the questionnaire contains a total of 66 measurement questions, with factor loadings between 0.699-0.827.

Table 4. Data analysis results of the questionnaire: component 1

Variable	Indicators	Factor Loading
VAR 42	Listening skills: Actively listen to students' ideas and needs.	0.775
VAR 44	Flexibility to adjust teaching strategies according to the classroom situation.	0.774
VAR 41	Differentiated teaching: adapting to the learning needs and abilities of different students.	0.767
VAR 62	Intercultural communication.	0.756
VAR 63	Engage in professional development activities to increase cultural sensitivity.	0.754

Variable	Indicators	Factor Loading
VAR 59	Student Relationships and Educational Emotions	0.747
VAR 60	Cultural inclusivity.	0.746
VAR 61	Cultural diversity.	0.733
VAR 66	Understand the impact of cultural differences on people's behavior and way of thinking	0.722
VAR 65	Attention and concern for the development and practice of intercultural education.	0.713

Table 5. Data analysis results of the questionnaire: component 2

Variable	Indicators	Factor Loading
VAR 18	Provide models and support for the use of instructional data.	0.797
VAR 22	Course Standards.	0.781
VAR 6	Professional knowledge and skills of teachers.	0.77
VAR 12	Management course instruction.	0.764
VAR 14	Appropriate instructional methods.	0.749
VAR 15	Should plan instructional activities.	0.735
VAR 64	Language skills.	0.731
VAR 21	Clarify the teaching objectives and learning outcomes of the course.	0.724
VAR 1	Teacher's teaching style and communication skills.	0.72
VAR 13	Reasonable instructional content.	0.709

Table 6. Data analysis results of the questionnaire: component 3

Variable	Indicators	Factor Loading
VAR 3	Classroom time management.	0.812
VAR 5	Classroom activity design.	0.784
VAR 17	Should supervise the classroom practice.	0.754
VAR 20	Attention should be paid to the connection of instructional content between courses.	0.749
VAR 19	Observe and improve teaching.	0.749
VAR 7	Allocation of teaching resources	0.73
VAR 4	Classroom Rules.	0.727
VAR 8	Build a positive classroom culture	0.723
VAR 9	Feedback and rewards.	0.711
VAR 16	Monitor the instructional situation.	0.708

Table 7. Data analysis results of the questionnaire: component 4

Variable	Indicators	Factor Loading
VAR 25	Establish college objectives.	0.827
VAR 49	Provide teachers with instructional resources and professional literature.	0.808
VAR 26	Establish a development vision.	0.795
VAR 48	Encourage teachers to continue learning.	0.793
VAR 46	Should have high-quality teacher development.	0.774
VAR 47	Improve the professional development level of teachers.	0.771
VAR 45	Instructional leaders should uphold the concept of lifelong learning.	0.762
VAR 11	Teaching organization and management skills.	0.728
VAR 10	Digital classroom management.	0.725

Table 8. Data analysis results of the questionnaire: component 5

Variable	Indicators	Factor Loading
VAR 57	Student cognitive ability.	0.77
VAR 58	Pay attention to students' mental health.	0.767
VAR 52	Participate in education and academic exchanges to improve your own education and teaching level.	0.758
VAR 2	Classroom environment.	0.758
VAR 53	Student autonomy and choice in the classroom.	0.74
VAR 56	Family and community involvement	0.737
VAR 40	Emotional Support: Provide emotional support to students.	0.736
VAR 50	Constantly enhance teachers' knowledge about students' progress and professional quality consistent with the college's goals.	0.704
VAR 51	Plan, design and manage courses.	0.699

Table 9. Data analysis results of the questionnaire: component 6

Variable	Indicators	Factor Loading
VAR 35	Standards of instructional culture.	0.781
VAR 33	Student Growth Criteria.	0.779
VAR 32	Have scientific instructional evaluation, development evaluation and feedback.	0.764
VAR 39	The feedback information should include students, relevant enterprises and other social personages to test instruction.	0.743
VAR 38	Provide opportunities for teachers' professional development.	0.741
VAR 36	Instructional environment standards.	0.736
VAR 37	Ethical and moral standards.	0.733
VAR 55	Student feedback.	0.728
VAR 34	Standards for teacher development.	0.708

Table 10. Data analysis results of the questionnaire: component 7

Variable	Indicators	Factor Loading
VAR 30	Develop a complete instructional system to make students learn more systematically.	0.78
VAR 23	Plan the organizational structure of the course.	0.745
VAR 24	Select and prepare the teaching materials, tools, and supporting resources needed for teaching.	0.739
VAR 43	Questioning skills: Ask questions that stimulate students' thinking and engagement.	0.717
VAR 28	Clarify and communicate objectives.	0.715
VAR 29	Develop communication objectives.	0.710
VAR 54	Student interaction.	0.706
VAR 27	Define instructional objectives.	0.703
VAR 31	Analyze the instructional effect.	0.700

Based on the results of the analysis of components of the teacher's competencies model on art education in the universities of Shenyang city under Liaoning province. Using Exploratory Factor Analysis. It can be summarized, in detail as follows.

Component 1, given name was Adaptability in Teaching; A
Component 2 given name was Broad Knowledge Base; B
Component 3 given name was Innovative Pedagogical Methods; I
Component 4 given name was Leadership in Education; L

Component 5 given name was Inclusive Classroom Practices; I
Component 6 given name was Timely and Effective Assessment; T
Component 7 given name was Engaging Instructional Techniques. E

For leaders could be understood and easy to remember, so the research given the name of the model was ABILITE and showed the relationship among these components as the Figure 3

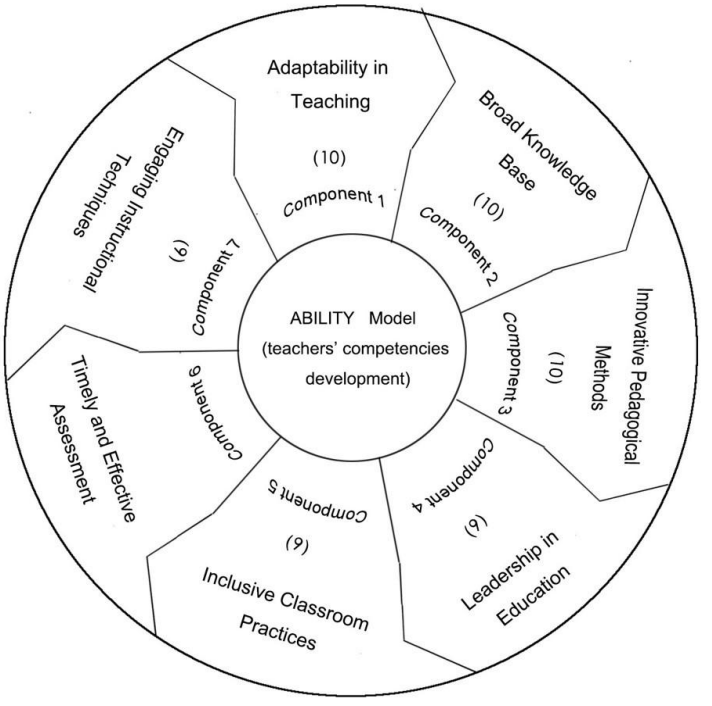

Figure 2 The "ABILITE Model "

From Figure 1, the teachers' competencies model on art education in the universities of Shenyang city under Liaoning province consists of seven parts. The model was named the "ABLITY model"

On the step 3, on the focus group interview had agreed with on the seven managerial guidelines, as detail: (1) Adaptability in Teaching [A]; to improve teaching adaptability, teach flexibly, teach students in accordance with their aptitude, and create an inclusive learning atmosphere. (2) Broad Knowledge Base [B]; to encourage teachers to learn and communicate across disciplines, improve teachers' professional reading and reflection, and establish a knowledge-sharing and inheritance mechanism.(3) Innovative Pedagogical Methods [I] to improve the cultivation and stimulation of teachers' innovative spirit, encourage teaching experiments and exploration, and commend and encourage innovative achievements.(4) Leadership in Education [L]; to improve teacher leadership training and development, encourage teachers to become learning leaders, and strengthen teamwork and shared leadership.(5) Inclusive Classroom Practices; [I] to promote diverse learning, respect differences, open communication between teachers and students, and encourage expression and feedback.(6) Timely and Effective Assessment [T] to improve assessment methods, establish clear and measurable assessment criteria and timetables, and adopt diversified assessment methods to ensure the comprehensiveness and accuracy of assessment results. And (7) Engaging Instructional Techniques. [E] to improve teaching skills, gain in-depth

understanding of course content and student needs, and focus on teacher-student interaction and emotional communication.

Discussion

1. Major finding for research objective 1, the competency model of university teachers constructed in this study emphasizes key elements such as teaching adaptability, inclusive teaching practices, timely and effective evaluation, attractive teaching skills, curriculum and instructional design, and professional development. The survey results show that teachers perform well in teaching adaptability and are able to adjust teaching methods according to student needs, but they still need to improve in the application of modern educational technology and guiding students to learn independently. This finding is consistent with the research results of Kabilan (2004) and Deng Jun (2007), who both emphasized the importance of teacher skills and teaching adaptability in teacher competence. In addition, this study also found that teachers need to have a broad knowledge base, which is consistent with Zhao Haipeng (2022) research on teacher competence in blended teaching. The use of innovative teaching methods by teachers, such as problem-based learning, project-based learning, and flipped classrooms, is crucial to stimulate students' interest and cultivate innovative ability, which is consistent with the research direction of Wang Jian (2008) and Xiong Ke (2013). The role of educational leadership in teacher competence cannot be ignored. It is reflected in the guidance of students' learning process and the construction of teaching teams, which echoes the research of Kabilan (2004) and Wang Jian(2008). Finally, timely and effective evaluation and attractive teaching skills are equally important for teachers' professional growth and teaching effectiveness, which is consistent with the research results of Tang Ling (2017) and Wang Jian (2008). Therefore, university administrators should pay attention to these elements to improve the overall competence of teachers.

2. Major finding for research objective 2, This study focuses on the competency model of art teachers in colleges and universities in Shenyang City, Liaoning Province, and reveals the core position of teaching adaptability in teacher competency. Teachers with teaching adaptability are better able to cope with teaching challenges and maintain a positive work attitude and professional happiness. This echoes the research of Li Jing (2017) and Wang Jian (2008). The study also found that teaching adaptability requires teachers to constantly explore and try new teaching methods and means in practice. This process helps teachers improve their teaching skills and levels. In addition, the results of this study are consistent with Zhao Haipeng (2022) on blended teaching. The teacher competency models established by studies on teacher competency are similar, both emphasizing the importance of teaching adaptability in teacher competency. However, due to differences in research background, sample selection, and analysis methods, there may be differences in the understanding and ordering of the importance of teacher competency elements. Therefore, future research should pay more attention to cross-cultural comparison and multi-perspective analysis, in order to provide more scientific and targeted suggestions for the development of higher education in my country.

3. Major finding for research objective 3, In the study of the competency model of art teachers in colleges and universities in Shenyang, Liaoning Province, we found that teaching adaptability is a key dimension that constitutes teacher competency. These dimensions are not only closely related to teaching quality and student learning outcomes, but also to teachers' professional development and professional happiness. First of all, teaching adaptability requires teachers to teach flexibly, teach students in accordance with their aptitude, and create an inclusive learning atmosphere. This helps teachers quickly adjust teaching strategies in the ever-changing educational environment, improves teaching effectiveness, and promotes teachers' own growth and reflection. Secondly, interdisciplinary learning and exchange can broaden teachers' knowledge horizons and promote integration and innovation between

different disciplines. Continuous professional reading and reflection are an integral part of teachers' professional growth. By reading the latest educational theories and practical cases, teachers can constantly update their knowledge systems and keep up with the development of the times. In addition, the cultivation and stimulation of innovative spirit, the training, and development of teacher leadership, respect for differences, and diversified learning, as well as the improvement of evaluation methods and teaching skills are also crucial to improving teachers' professional capabilities and comprehensive quality. The competency model of art teachers in colleges and universities in Shenyang City, Liaoning Province reveals the key dimensions of teacher competency and provides a useful reference for the construction of college teacher teams. These findings are consistent with the research of Li Jing (2017)) and Chen Lizhu (2022), emphasizing the importance of teacher competency and providing a scientific theoretical basis and practical guidance for educational reform and development.

Recommendations

Combining current achievements with future development trends, set more specific and challenging new goals. For example, we will improve the level of internationalized teaching, develop school-based special courses, and formulate corresponding implementation plans, clarify time nodes and division of responsibilities. We will continue to cycle through the PDCA process to promote the spiral growth of teachers' abilities.

1. In the course design stage, teachers can determine students' learning needs through needs analysis, set clear teaching goals, select appropriate educational resources and methods, and develop detailed teaching plans.

2. In the teaching implementation stage, teachers need to conduct classroom teaching according to the formulated plan, actively interact with students, use a variety of teaching methods to stimulate students' learning interests, and provide timely feedback on students' learning situations.

3. Through regular classroom observation, student homework analysis and student interviews, the teaching effect is checked to understand the difficulties students encounter in the learning process and adjust the teaching strategy.

4. Problems found in the inspection are dealt with, such as increasing tutoring time for students' weak links, or modifying teaching materials to meet students' needs. At the same time, successful teaching practices are summarized and promoted to form the school's teaching characteristics. By applying the PDCA cycle, teachers can systematically plan, implement, monitor and optimize the teaching process, thereby improving the quality of teaching and promoting the all-round development of students

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วารสาร พุทธศาสตร์
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