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Information Teaching Ability of Young Teachers: Basis for a Training and Development Program

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Abstract: As is well known, the key dimension affecting the development of universities is the level of teaching staff, especially the teaching level of young teachers. From the perspective of informatization, this study selected 192 teachers from universities, who were young teachers under the age of 30, to investigate their teaching abilities. Quantitative and qualitative research methods were used, especially descriptive/correlation/difference statistical methods, Understand the actual situation of young teachers' information technology teaching ability, and analyze the constraints that affect the development of young teachers' teaching ability. And in response to the problems, specific suggestions are proposed from a macro level, providing important reference value or guidance for the training of young teachers' information technology teaching ability, and making contributions to improving the information technology teaching ability of young teachers in universities.

Keywords: Informationization Perspective; Young Teachers'; Teaching Ability.

1. Introduction

Through this research, we seek effective strategies or development paths to promote the development of young teachers' information based teaching abilities in Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University, in order to improve young teachers' information based teaching abilities, including basic information literacy, information based teaching analysis ability, information based teaching design ability, and information based teaching implementation ability, Information based teaching evaluation ability.

Through this study, we identify which factors restrict the development of young teachers' information based teaching ability, and propose specific paths for the development of young teachers' information based teaching ability. Finally, make corresponding evaluations on the informatization teaching ability of young teachers at Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University.

Through this study, the focus is on systematic analysis of the structure of information based teaching abilities that young teachers in Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University should possess. Based on this, a "questionnaire on information based teaching abilities for young teachers" is designed. Master the actual situation of young teachers' information based teaching abilities in Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University.

With the increasing development of science and technology and the transformation and upgrading of universities, the demand for talents, both socially and for university teachers, has shown the characteristics of being knowledgeable, specialized, and young. Young teachers from Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University are sourced from graduates of major universities at home and abroad, with the main educational level of master's degree and doctoral degree, and the age level is under 30 years old. The first time young teachers walk onto the three-foot podium, they not only need to adapt to the transformation of identity from students to teachers, but also have a systematic control ability in various aspects such as teaching planning, teaching organization, and teaching implementation. The existing literature focuses more on the research of teaching ecology in the information era, focusing on the exploration and implementation of specific teaching methods, while there is less systematic elaboration of the entire process of information based teaching. Therefore, this study discusses the steps of information based teaching from the above five aspects.

2. Statement of the Problem

This research will analyze the information-based teaching ability of young teachers of Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University to be used as the basis for generating a proposed training and development program.

Specifically, seek answers to the following questions:

1. What is the profile of the respondents in terms of the following aspects:

1.1 age;

1.2 educational attainment;

1.3 professional title;

1.4 number of years in Teaching;

1.5 teacher education background; and

1.6 educational technology training?

2. What is the respondents' level of information-based teaching ability in terms of the following:

2.1 information literacy;

2.2 analytical ability;

2.3 teaching design capability;

2.4 teaching implementation capability;

2.5 teaching evaluation ability.

3. Is there a significant difference between the respondents' level of information-based teaching ability when grouped according to profile?

4. Is there a significant relationship between the respondents' level of information-based teaching ability and their profile?

5. Based on the results of the study, what training and development program may be proposed to improve/enhance the information-based teaching ability of young teachers?

2.1. Scope and Delimitation of the Study

In order to facilitate the development of the subject, the overall scope of the research objects is Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University teachers, specifically young teachers under the age of 30. The reason for choosing these five schools as research subjects is to better balance and define the accuracy of data related to research papers by selecting diverse samples. In addition, through feedback from different school samples, it is possible to gain insight and ensure the authenticity of the data. Finally, because the five schools represent the current situation of regional university education, they can provide better opinions and suggestions for education decision-making departments, help university managers better understand the current situation of young teachers, and achieve targeted goals.

2.2. Information Teaching Ability and Dimension Design

According to the research on the literature of information teaching ability, information teaching ability appears under the new teaching mode. It is generally believed that information teaching ability is a comprehensive ability that teachers show when they integrate teaching resources, implement information teaching activities and complete teaching tasks with the help of information technology to promote the development of teachers and students. It is also the core ability that teachers need to engage in teaching in the information age.

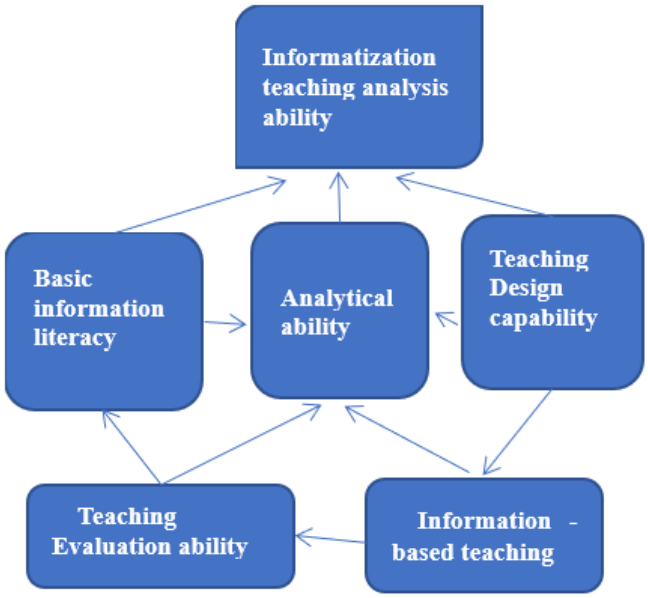

Figure 1. Informatization teaching ability

Informatization teaching ability is a comprehensive ability aimed at promoting the development of teachers and students. It consists of several sub-abilities and includes several dimensions. Teachers should have teaching analysis ability (analyzing teaching resources, predicting students' knowledge structure defects, and cultivating students' innovation ability). Teachers' information-based teaching ability consists of several sub-abilities, including basic information literacy (awareness and attitude, basic knowledge and skills), teachers' information-based teaching analysis ability, teachers' information-based teaching design ability, teachers' information-based teaching implementation ability Five sub-abilities of teachers' informatization teaching evaluation ability. This also constitutes the structure of young university teachers' information-based teaching ability, as shown in Figure 1.

To perform statistical tests on survey data so that researchers can easily evaluate and interpret the data. Statistical processing of the data is essential for the purposeful use of these data. The organization of the data is equally important so that appropriate conclusions can be drawn. Therefore, statistical processing requires the right statistical tools to interpret the data at hand. The most important function of the statistical description of the data is to remind the researcher not to make assumptions about the results beyond the guarantee of the data.

For the purpose of this study, the following statistical tools were used:

Frequency and Percentage. These will be used in alayzing the result of the survey questionnaire.

Mean and Standard Deviation. It is used to test whether there are significant differences in gender, age, teaching age, educational background, etc. That is, the average deviation or change between all values and the average value of these data is the standard for observation and statistics of all dimensions of young teachers' teaching ability.

ANOVA. It is a differential analysis of the age, teaching age and educational background of young teachers' information-based teaching ability. Because the level value of the independent variable "the age, teaching age and education background of the subject teacher" is more than three, and the dependent variable is a continuous variable, the method used in the age difference analysis of teachers' informatization teaching ability is one-way ANOVA.

Pearson correlation coefficient. Pearson correlation coefficient in SPSS correlation analysis is used to test the correlation between the basic information literacy, teaching analysis ability, teaching design ability, teaching implementation ability, and teaching evaluation ability of young college teachers' informatization teaching design ability.

2.3. Data Analysis Procedure

The researcher will review and analyze the data collected through the questionnaire to determine whether the five competency dimensions meet the requirements of information-based teaching ability. The score value represents:

4.60 – 5.00 Very High

3.60 – 4.59 High

2.60 – 3.59 Average

1.60 – 2.59 Low

1.00 – 1.59 Very Low

2.4. Theoretical Framework

The study is anchored with Smart education theory and innovative education theory.

Smart Education Theory

In recent years, the smart education system, the connotation and characteristics of smart education, the relationship between smart education and education informatization, smart management, smart learning, smart teachers, education smart cloud services, smart experiments, smart education environment, smart education development strategy, and smart education research paradigm based on big data have been discussed and achieved certain results. The world's first academic monograph on intelligent education in the information age systematically mentions the basic view of intelligent learning theory: in the process of learning, only by closely linking learning, practice, collaboration and research activities can we effectively cultivate advanced thinking and innovation ability, otherwise it is easy to keep the cultivation at a shallow level, and it is difficult to shape the top-notch and innovative talents required in the information age. Therefore, the focus of teaching assessment must be shifted from understanding and memory of knowledge to in-depth exploration on the basis of shallow knowledge, and further develop towards innovation and creation, so as to extend the chain of cultivation to innovation and creation, and better reflect that learning is for creation, and learning is for creation.

Innovative education theory

At the beginning of the 21st century, innovative education is an original term in China and a relatively new term. Its emergence is accompanied by the advent of the information and knowledge era, the reconstruction of "innovation", and the recognition of educational values. Innovation education is to construct creative and practical student-centered activities in the process of education. Through students' active participation, practice, thinking, exploration and creation, students' innovation consciousness can be cultivated, innovative potential can be consciously stimulated, innovative ideas can be presented through individual practical activities, and innovative behavior of the whole society can be driven, and innovation of knowledge, technology and system can be realized. Innovation education is an educational idea and approach based on the principle of innovation, with the ultimate goal of cultivating students with a certain degree of innovation awareness, thinking, ability, etc. Through the positive influence of heredity and environment, innovative education gives play to the leading function of education, fully stimulates the subjective initiative of students in theory and practice, pays attention to the awakening and development of their subject innovation consciousness, spirit and skills, and enables them to form innovative personality to meet the needs of the future society and meet the development of students' subject. It is an education that respects "people" as the main body, and gives full play to the subjectivity of "people", It is an education that respects people's differences, promotes people's all-round development, and establishes a new relationship with the internal integration of social and economic life. It is an education aimed at improving the innovative spirit, ability and personality of young students, aiming at cultivating innovative talents.

2.5. Research Paradigm

Specifically, the above research is reflected in the following research paradigm. As shown in Figure 2:

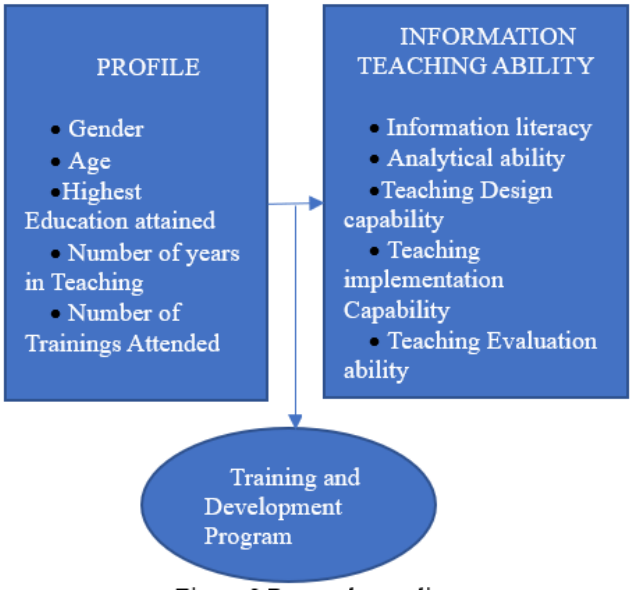

Figure 2. Research paradigm

2.6. Hypotheses

Ho1 There is no significant difference between the respondents' level of information-based teaching ability when grouped according to profile.

Ho2 There is no significant relationship between the respondents' level of information-based teaching ability and their profile.

3. Methodology

3.1. Research Design

This study employed a quantitative research method. Specifically, it adopted a descriptive differential correlational research design, which was appropriate because it pertained to the profile variables of young teachers. The research aimed to evaluate the developmental status of young teachers' informational teaching abilities, with the evaluation results serving as a reference for action plans. The survey method used a modified questionnaire as the tool for collecting participant information. The descriptive design was considered the most suitable for this study because, compared to other survey methods, it was the most extensive and inclusive tool. In the context of this study, the researchers aimed to describe the current status of the participating young teachers' informational teaching abilities and understand the correlation between young teachers' informational teaching skills and influencing factors, providing guidance for enhancing teachers' informational teaching capabilities and learning.

3.2. Research Participants

The study participants were selected from university teachers from Nanshan College of Yantai, Yantai University, Ludong University, and Shandong University of Business in Shandong Province, all of whom were under the age of 30. The design of this research targeted young teacher participants from universities in Shandong Province who were under 30 years of age, totaling 192 individuals. These young teachers had already fulfilled the entry requirements of their respective colleges. The teachers surveyed were young educators under 30 from universities in Shandong Province. Teachers meeting these criteria were the subjects of this

investigation. The study was conducted in a Chinese language environment for the questionnaire survey. After data collection was complete, it was organized and then translated into English. This research employed a random sampling method to select participants. The study used the Solvang announcement to calculate the sample size (n), resulting in the selection of 192 young teachers.

3.3. Research Instruments

This study was conducted using two research tools. The first was a questionnaire survey website, a Chinese platform specializing in information research and aggregation, accessible at https://www.wjx.cn/. This website facilitated the collection of research-related information. The second tool was the SPSS software. After gathering the data from the study and performing statistical analyses, it was imported into the SPSS software where correlation analyses were executed on the data. The findings from this study offered significant data support for the research.

The first questionnaire was titled "Evaluation Scale for Informatization Teaching Level of Young Teachers." Following the prescribed methodology, the content of the evaluation questionnaire for young teachers' information technology teaching abilities was verified:

Five mathematics teachers reviewed the content of the initially developed item set. The objective of this process was to obtain feedback from the reviewers to enhance the content of the questionnaire. This step was crucial to ensure the adequacy and sufficiency of the survey items, aiming to accurately measure the developmental level of teachers' informatized teaching abilities.

3.4. Data Gathering Procedure

The researchers had sought the President's approval to collect the relevant data required for this study. Upon receiving the President's approval, the researchers had collaborated with young teachers from relevant universities in Shandong Province. The researchers had administered the questionnaire to the young teacher participants via the Questionnaire Star website (https://www.wjx.cn/). We had employed frequency, percentage, weighted average, t-test, and one-way analysis of variance (ANOVA) to organize, analyze, and interpret the participants' responses in the questionnaire.

3.5. Statistical Treatment of the Data

The results of the survey questionnaire had been reviewed and analyzed. The average score should have displayed the following description:

Quantitative data had been statistically processed using the following statistical tools:

Frequency and Percentage: This had been used to describe the participant profile divided by department, as well as the teacher participant profile divided by highest educational level, and years of teaching. Additionally, these tools had been utilized to identify the levels of informational teaching abilities of young teacher participants and the challenges and difficulties faced by young teachers in the development of their informational teaching capabilities.

Mean: This had been used to determine the level of student classroom participation, the level of development of creative thinking, and the like. The average values had been interpreted using a Likert four-point scale.

Score range	descriptive explanation
3.25-4.00	High
2.50-3.24	Average
1.75-2.49	Low
1.00-1.74	Very Low

T test. This will be used to test whether student participants differ significantly in class participation, creative thinking levels, when they are grouped by profile variables.

4. Results, Analysis, and Interpretation

4.1. Descriptive Analysis of Basic Information

The basic profile information of young teachers at Yantai Nanshan College, Yantai University, Ludong University, Shandong Technology and Business University.

Table 1. Profile of the Respondents

Profile	Number	Percentage
Age		
Under 25 years old	26	13.5%
26-28 years old	85	44.3%
29-30 years old	81	42.2%
Total	192	100.0%
Educational Attainment		
Doctor	67	34.9%
Master	116	60.4%
Undergraduate	9	4.7%
Total	192	100.0%
Professional Title		
Teaching assistant	43	22.4%
Lecturer	113	58.9%
Associate professor	29	15.1%
Professor	7	3.6%
Total	192	100.0%
Years of Teaching		
Less than 1 year	25	13%
1-3years	71	36.80%
4-5years	96	50%
Total	192	100.00%
Teacher Education Background		
with teacher education	78	40.6%
without teacher education	114	59.4%
Total	192	100.0%
Educational Technology Training		
More than 5 times	129	67.2%
1-4 times	50	26.0%
Never	13	6.8%
Total	192	100.0%

Age. The statistical data on the age of young teachers in Yantai Nanshan University, Yantai University, Ludong University, and Shandong Business University are presented in Table 1. It can be observed that young teachers under the age of 25 constitute 13.5% (26 individuals) of the young teacher population, those aged 26 to 28 make up 44.3% (85 individuals), and young teachers aged 29-30 account for 42.2% (81 individuals). This indicates that the majority of young teachers fall into the older age groups.

Educational Attainment. The distribution of educational qualifications among young teachers at these universities is outlined in Table 1. It is evident that doctoral degree holders comprise 34.9% (67 individuals) of the total sample, while

master's degree holders make up 60.4% (116 individuals), and bachelor's degree holders represent 4.7% (9 individuals) of the total sample. Therefore, the educational qualifications of teachers in this survey align well with practical requirements. Through interviews, it was revealed that most young teachers actively pursue higher education during their spare time and vacations to enhance their teaching abilities, in accordance with the development plans and aspirations set by their institutions. They demonstrate a strong sense of competitiveness and a willingness to learn in the university context.

Professional Title. The specific distribution of professional titles among young teachers in these universities is presented in Table 1. According to the data, "Lecturer" is the most common professional title, accounting for 58.9% (113 individuals) of the total sample, followed by "Assistant Lecturer" at 22.4% (43 individuals). "Associate Professor" comprises 15.1% (29 individuals) of the sample, while "Professor" represents 3.6% (7 individuals). Teacher's professional titles are assessed based on their expertise and technical proficiency. The survey data suggest that the professional skills, practical abilities, and professional ethics of young teachers at Yantai Nanshan University, Yantai University, Ludong University, and Shandong Business University are of a high standard.

Years of Teaching. The teaching experience of young teachers at these universities is depicted in Table 1. It can be noted that 13% (25 individuals) have less than one year of teaching experience, 36.8% (71 individuals) have 1-3 years of teaching experience, and 50% (96 individuals) have 4-5 years of teaching experience.

The data on teachers' teaching experience indicate that fostering the information technology teaching capabilities of young teachers can contribute to the overall improvement of information technology teaching quality. This is partly attributed to the fact that teachers with relatively low teaching experience tend to exhibit strong learning capabilities. As evident from the data, half of the total sample consists of teachers with 1-3 years of teaching experience. These young teachers, being relatively younger, possess the ability to embrace new educational concepts and teaching technologies. They can effectively incorporate their teaching experience with information technology knowledge, thereby assisting in enhancing the overall quality of teaching. After four years of teaching, these young teachers have gained valuable insights and experience, contributing to the improvement of education.

Teacher Education Background. The types of education backgrounds among young teachers in these universities are presented in Table 1. It is observed that 40.6% (78 individuals) of the sample have received teacher education, while 59.4% (114 individuals) have not undergone teacher education courses. This suggests that many teachers have not received relevant training in pedagogical theory and possess insufficient knowledge in educational principles.

Educational Technology Training. Young teachers' participation in educational technology-related training is illustrated in Table 1. It can be seen that 67.2% (129 individuals) of the sample have participated in more than 5 educational technology-related training sessions, 26.0% (50 individuals) have attended 1-4 training sessions, and 6.8% (13 individuals) have never participated in such training. Survey data indicates that the majority of teachers at the four universities have undergone educational technology-related training, with very few having never attended such training sessions.

4.2. Test of Significant Difference Between Information-Based Teaching and Profile

This content is based on the profile, dividing the young teachers in the tested universities into four groups: age, Educational Attainment, and Educational Attainment, Years of Teaching and conducting a differential analysis of their information technology teaching abilities.

Table 2. Test of Significant Difference between Information-Based Teaching and Age

		Mean	F	sig	Interpretation	Decision
BasicInformationLiteracy	Under 25 years old	3.5808	6.728	.002	Significant	Reject Null
	26-28years	3.3129				
	29-30years	3.5444				
	Total	3.4469				
AnalyticalAbility	Under 25 years old	3.4308	7.109	.001	Significant	Reject Null
	26-28years	3.2082				
	29-30years	3.4926				
	Total	3.3583				
DesignCapability	Under 25 years old	3.4091	5.889	.003	Significant	Reject Null
	26-28years	3.2203				
	29-30years	3.4792				
	Total	3.3551				
InformationbasedTeaching	Under 25 years old	3.3750	6.094	.003	Significant	Reject Null
	26-28years	3.1206				
	29-30years	3.3981				
	Total	3.2721				
TeachingEvaluationAbility	Under 25 years old	3.2500	3.217	.042	Significant	Reject Null
	26-28years	3.0471				
	29-30years	3.2469				
	Total	3.1589				

Table 2 shows the results of the ANOVA, testing whether there are significant differences in teacher IT teaching design ability when young teacher participants were classified by age. The results in various dimensions of information literacy, analysis, design, implementation and evaluation abilities showed no significant differences between teachers across age groups. Therefore, the null hypothesis is accepted, indicating that there is no significant difference in teachers' information teaching design ability among different age groups. The results of this study indicated that there was no significant difference in teacher IT teaching design ability among young teacher participants in different age groups.

Table 3. Test of Significant Difference Between Information-Based Teaching and Educational Attainment

		Mean	F	sig	Interpretation	Decision
BasicInformationLiteracy	Doctor	3.4776	.781	.459	Not Significant	Accept Null
	Master	3.4181				
	Undergraduate degree	3.5889				
	Total	3.4469				
AnalyticalAbility	Doctor	3.3537	.209	.811	Not Significant	Accept Null
	Master	3.3526				
	Undergraduate degree	3.4667				
	Total	3.3583				
DesignCapability	Doctor	3.3853	.205	.815	Not Significant	Accept Null
	Master	3.3362				
	Undergraduate degree	3.3737				
	Total	3.3551				
InformationbasedTeaching	Doctor	3.2873	.066	.936	Not Significant	Accept Null
	Master	3.2608				
	Undergraduate degree	3.3056				
	Total	3.2721				
TeachingEvaluationAbility	Doctor	3.2257	.904	.407	Not Significant	Accept Null
	Master	3.1304				
	Undergraduate degree	3.0278				
	Total	3.1589				

Table 4. Test of Significant Difference Between Information Based Teaching and Years of Teaching

		Mean	F	sig	Interpretation	Decision
BasicInformationLiteracy	Less than 1 year	3.3812	2.738	.045	Significant	Reject Null
	1-3years	3.4508				
	4-5years	3.3163				
	more than 5 years	3.5629				
	Total	3.4469				
AnalyticalAbility	Less than 1 year	3.2813	1.643	.181	Not Significant	Accept Null
	1-3years	3.2969				
	4-5years	3.3163				
	more than 5 years	3.4758				
	Total	3.3583				
DesignCapability	Less than 1 year	3.4602	2.036	.110	Not Significant	Accept Null
	1-3years	3.2923				
	4-5years	3.2672				
	more than 5 years	3.4633				
	Total	3.3551				
InformationbasedTeaching	Less than 1 year	3.4297	1.840	.141	Not Significant	Accept Null
	1-3years	3.2385				
	4-5years	3.1531				
	more than 5 years	3.3609				
	Total	3.2721				
TeachingEvaluationAbility	Less than 1 year	3.3906	2.317	.077	Not Significant	Accept Null
	1-3years	3.1404				
	4-5years	3.0230				
	more than 5 years	3.2258				
	Total	3.1589				

Table 3 shows the results of the ANOVA, examining whether there were significant differences in teacher informatization teaching design ability when younger teacher participants were classified according to their educational background. Refusing the null hypothesis. In contrast, there were no significant differences between "information literacy" and "IT teaching implementation ability" analytical ability "," design ability, "and" evaluation ability ", and the

null hypothesis was accepted. Teachers with PhD degrees had significantly higher scores in both dimensions than those with master's and bachelor's degrees. This means that the average level of competence for PhD faculty is higher than those with master's and bachelor's degrees.

Table 4 shows the results of ANOVA, testing whether there were significant differences in teacher informatization teaching design ability when young teacher participants were classified by teaching age. There are significant differences in information literacy, but the results on various dimensions of analysis ability, design ability, implementation ability and evaluation ability show that there is no significant difference between teachers of different teaching ages. Therefore, the null hypothesis we accepted is zero, indicating that there is no significant difference in teachers' information teaching design ability among different teaching age groups. The conclusion of this study shows that there is no significant difference in the information teaching design ability based on teaching age category except for basic information literacy.

5. Proposed Training and Development Program

5.1. Rationale

This training program aims to elevate the information technology teaching capabilities of young teachers. The emphasis is on rationally planning training courses, enhancing teachers' information technology teaching literacy, perfecting young teachers' information analysis and design skills, establishing a scientific teacher information evaluation system and dissemination channels, optimizing young teachers' information practice capabilities, formulating policies, and ensuring the sustainable development of physical education.

To address the challenges and difficulties faced by teachers in enhancing the information technology teaching capabilities of young teachers, this training program can better improve the information technology teaching skills of young teachers, solving challenges and difficulties encountered by young teachers in using information technology teaching.

Table 5. Training Program

Area of Concern	Specific Goal	Strategies/activity	Persons Involved	Time Frame	Expected Output
information literacy;	Enhance the information literacy of young teachers to enable them to efficiently locate, evaluate, and utilize digital resources in their teaching methods.	Organized a week-long intensive workshop that includes seminars from information literacy experts, hands-on activities, and collaborative sessions where participants can share their experiences and challenges.	Young teachers Information literacy experts Librarians Instructional designers IT specialists	Once every six months	Construct a curriculum mechanism that integrates information literacy skills into daily teaching practices, ensuring that young teachers are not only proficient in utilizing digital resources but also in imparting these skills to their students.
analytical ability	Strengthen the analytical ability of young teachers to enable them to critically assess information, draw meaningful conclusions, and implement data-driven decisions in their instructional methods.	Conducted a series of analytical thinking workshops, incorporating case studies, group discussions, and practical exercises that emphasize critical thinking, problem-solving, and data interpretation.	Young teachers Analytical thinking experts Curriculum developers Statisticians or data analysts Peer reviewers	Once a month	Construct a curriculum mechanism that systematically integrates analytical thinking exercises and challenges, ensuring that young teachers continuously hone their analytical skills and effectively embed these techniques into their teaching practices.
teaching design capability	Boost the teaching design capability of young teachers, enabling them to create innovative, effective, and student-centered lesson plans that cater to diverse learning needs.	Developed a comprehensive training module focused on pedagogical methodologies, instructional design principles, and hands-on lesson planning sessions, allowing teachers to craft, evaluate, and refine their lesson designs.	Young teachers Instructional design experts Experienced teachers Curriculum specialists Educational technology experts	Two times a month	Construct a curriculum mechanism that incorporates a systematic approach to teaching design, ensuring that young teachers consistently apply best practices in lesson planning and continuously adapt to evolving educational needs and trends.
teaching implementation capability	Improve the teaching implementation capability of young teachers, empowering them to effectively execute their lesson plans in various classroom environments, adapt to real-time challenges, and ensure meaningful student engagement.	Facilitated role-play and simulation sessions, where young teachers can practice implementing their lesson plans, manage classroom dynamics, and receive real-time feedback in a controlled environment.	Young teachers Classroom management experts Students or student representatives Instructional coaches	Three times a semester	Construct a curriculum mechanism that embeds continuous practice and feedback loops for teaching implementation, ensuring that young teachers develop resilience, adaptability, and proficiency in bringing their lesson designs to life in the classroom.
teaching evaluation ability.	Augment the teaching evaluation ability of young teachers, enabling them to accurately assess student performance, provide constructive feedback, and refine their teaching methods based on evaluation outcomes.	Hosted interactive workshops that focus on various evaluation methodologies, the design of assessment tools, and techniques for providing feedback, supplemented with mock evaluation sessions for hands-on practice.	Young teachers Assessment and evaluation experts Experienced educators Psychologists or counselors Students or student	Three times a semester	Constructed a curriculum mechanism that integrates consistent evaluation and feedback methodologies, ensuring that young teachers not only gauge student performance effectively but also use these evaluations as a springboard for continuous pedagogical improvement.

General Objectives

1. Strengthen targeted teacher information literacy training strategies to address the lack of information technology teaching ability and awareness due to insufficient information literacy training courses. Schools should offer various information literacy training courses to ensure every teacher can choose their preferred self-promotion program.

2. Elevate the level of teacher capabilities in analyzing and designing using information technology teaching methods.

3. Enhance the evaluation level of teacher information literacy.

6. Conclusion

Based on the research results, the following conclusions are drawn:

1.The research reveals that there is a significant demand for IT-based teaching skills among educators in higher education. Observations in classroom teaching primarily highlighted the challenges many educators face in terms of digital literacy, analytical skills, instructional design, teaching implementation, and evaluation abilities. These challenges hinder their acceptance and enrichment of their IT-based teaching proficiencies.

2.Enhancing awareness of IT-based teaching skills within educational settings aids educators in recognizing their capability levels and limitations. This awareness varies among individuals, fostering empathy and acceptance towards others. Especially for teachers, understanding their level of IT-based teaching capabilities can elucidate why they may perceive deficiencies in teaching quality, guiding them towards areas of self-improvement.

3.Given the diverse requirements of modern education, educators need guidance in exhibiting empathy and appreciating the diverse backgrounds of their colleagues and students. Cultivating IT-based educational skills and appreciation for diversity is pivotal. These approaches are key for teachers to learn, understand, and enhance their IT-based teaching capabilities.

7. Recommendation

Based on the results, the researcher provides the following suggestion:

1.To enhance teachers' capabilities in information technology-based teaching, educational departments can regularly organize training sessions and workshops on educational technology. By inviting experts from the fields of information technology and educational technology to conduct lectures and hands-on workshops, these events not only provide theoretical knowledge but also practical opportunities for teachers. Moreover, through case-sharing sessions, experienced teachers can share their successful practices in IT-based teaching, offering insights for other educators.

2.In order to equip teachers with ample learning resources, educational institutions should establish a technical support team to provide daily tech assistance and consultation for teachers. Simultaneously, a wealth of educational technology resources, such as teaching software, online courses, and instructional design templates, should be made available. These resources will aid teachers in better integrating technology into their teaching practices.

3.To facilitate exchanges regarding IT-based teaching capabilities among teachers, an online community for educators focused on tech-integrated teaching should be created. This platform encourages dialogues and collaborations among teachers. Within such a community, educators can share their experiences and resources, collaborate on designing and implementing teaching activities, and provide an environment of mutual learning and encouragement.

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