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Article

The Construction and Practice Exploration of the "Teaching-Learning-Evaluation" Integrated Management Model for the College Mental Health Education Course: Taking Inner Mongolia University of Nationalities as an Example

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Abstract: Traditional college mental health education suffers from the "teaching - learning - assessment" separation phenomenon, resulting in one-way knowledge transmission and students' passive acceptance. This paper has studied and constructed an integrated teaching design process of "teaching - learning - assessment", including the target system, structural style, teaching activities, resource integration, strategy optimization, and diversified assessment. Combined with the tasks and steps in actual teaching, it focuses on the implementation and feedback of students' "learning - assessment" effectiveness, and constructs a dynamic adjustment "teaching - learning - assessment" integrated teaching implementation model. 312 freshmen from Inner Mongolia University of Nationalities were selected as the research subjects and a control experiment was conducted. The research results show that the "teaching - learning - assessment" integrated model significantly improves students' mental health levels ($P < 0.05$). Students in the experimental group are significantly better than those in the control group in terms of self-awareness, emotion regulation, attitude towards love, coping with frustration and stress, and adaptability. Therefore, the "teaching - learning - assessment" integrated teaching design model and practical path based on core literacy has feasibility and promotion value, and can provide reference for frontline teaching.

Keywords: Mental health education; "teaching - learning - assessment" integration; Dynamic adjustment; Core literacy

1. Introduction

Currently, China is in the core stage of moving towards socialist modernization. All sectors of society are filled with various opportunities and challenges. How to guide students to adapt to the current social development situation as soon as possible and quickly accept the new mission bestowed upon contemporary youth by the new era [1-2] is a new topic faced by the mental health education at Inner Mongolia University of Nationalities.

The purpose of mental health education is to enhance students' comprehensive qualities through activities and promote their physical and mental health development [3-4]. Under the multiple backgrounds of the comprehensive implementation of the "double reduction" policy, the full implementation of the new curriculum standards, and the accelerated promotion of educational digital transformation, the traditional teaching-centered model has been unable to meet the needs of students' individualized development and the improvement of their mental health qualities [5-6]. Especially at present, the education system is facing the historic task of transitioning from "knowledge imparting" to

"ability cultivation", and urgently needs to construct a teaching model that can achieve closed-loop management of the teaching process, dynamic feedback, and continuous optimization. The "teaching-learning-assessment" integrated management model, as an important theoretical framework in the current teaching design field, emphasizes the organic integration and coordinated advancement of teaching activities, learning processes, and evaluation mechanisms [7-10]. It not only requires teachers to set evaluation goals in the teaching design stage, but also emphasizes using evaluation results to feed back and adjust teaching strategies, forming a virtuous cycle of "promoting teaching through evaluation and promoting learning through evaluation" [11-13]. This model breaks through the linear logic of "teaching first and then evaluating" and "emphasizing teaching but neglecting evaluation" in traditional teaching, and advocates a teaching decision-making path based on evidence, making mental health teaching more targeted, learning more proactive, and evaluation more developmental [14-16].

This study focuses on the design and application of the "teaching-learning-assessment" integrated management model for courses under the guidance of the core literacy of mental health in colleges and universities. It constructs a teaching process consisting of the target system, structural style, teaching activities, resource integration, strategy optimization, and multiple evaluations. At the same time, taking freshmen of Inner Mongolia University of Nationalities as the research object, it compares the "teaching-learning-assessment" integrated teaching and the traditional teaching models, and examines the differences in students' mental health conditions before and after the experiments.

2. Construction of the "Teaching - Learning - Assessment" Integrated Management Model

2.1. Design of Integrated Management Model

According to the core quality requirements of the mental health education courses in universities, combined with the goal evaluation model and the theory of the zone of proximal development, this research has designed an integrated management model design process for the mental health education courses in universities. From the perspective of teaching and development, "teaching, learning and evaluation" are integrated, that is, when designing teaching, attention should be paid to the teaching of teachers, the learning of students and the evaluation of teaching effects in a tripartite manner.

The core themes include five points:

(1) Precise "optimal teaching". The design of teaching activities and learning tasks should be above the current level and within the potential level. Through appropriate learning challenges, it helps students achieve learning advancement and quality development.

(2) The core of the goal. All activities, teaching, learning and evaluation are carried out around the "pre-set goal system", with a clear direction, avoiding blindness.

(3) Measurability of behavior. Emphasizes the observability and measurability of the goals, making the evaluation shift from "subjective ambiguity" to "objective specificity".

(4) Systematicness and practicality. Integrates "goals, structure, activities, resources, strategies, evaluation" into a complete curriculum system, enhancing operability.

(5) The guiding role of evaluation. The ultimate goal of evaluation is "improvement" and "optimization", focusing on how to achieve the expected goals through strategy adjustments.

Therefore, this research has constructed an integrated design teaching process, consisting of the goal system - structure style - teaching activities - resource integration - strategy optimization - multi-dimensional evaluation, as shown in Figure 1.

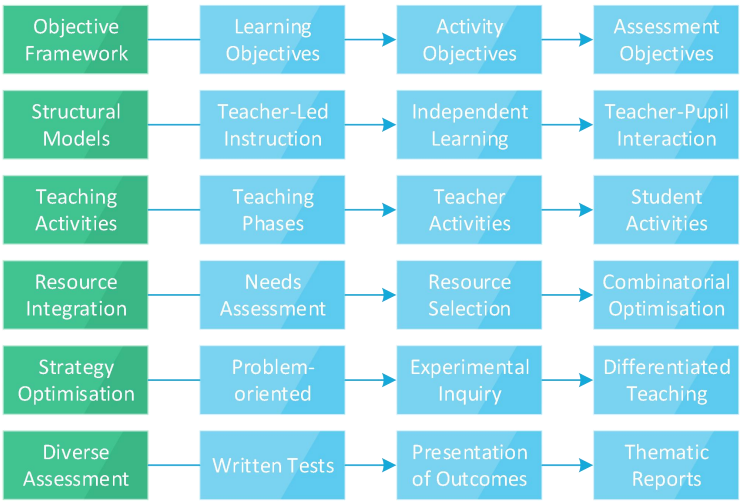

Figure 1. "Teaching-Learning-Evaluation" integrated design process

2.1.1. Target System

The target system is the core framework of the "teaching - learning - assessment" integration, and it needs to be designed in a coordinated manner from three aspects: teaching objectives, activity objectives, and assessment objectives, to ensure the consistency between teaching design and the development of core competencies. The teaching objectives serve as the top-level guidance for curriculum implementation, and they need to convert core competencies into specific and operational requirements. Their design should follow the principles of competency orientation, hierarchical progression, and social relevance, thereby reflecting the core competencies of chemistry. The activity objectives are the phased carriers of teaching objectives, and they need to promote the implementation of competencies through real situational tasks. The design should focus on the matching of goals and tasks, the authenticity of the situation, and the advancement of thinking. The assessment objectives are the dynamic benchmarks for the development of competencies, and they need to be deeply integrated with teaching and activity objectives. The design should take into account consistency, diversity, and dynamics.

Based on the above principles, the process of target design for college mental health education courses is organized, including analyzing student conditions and conducting research on curriculum standards, etc. See Figure 2. Among them, the coordinated design of teaching objectives, activity objectives, and assessment objectives constitutes the core engine of "teaching - learning - assessment" integration.

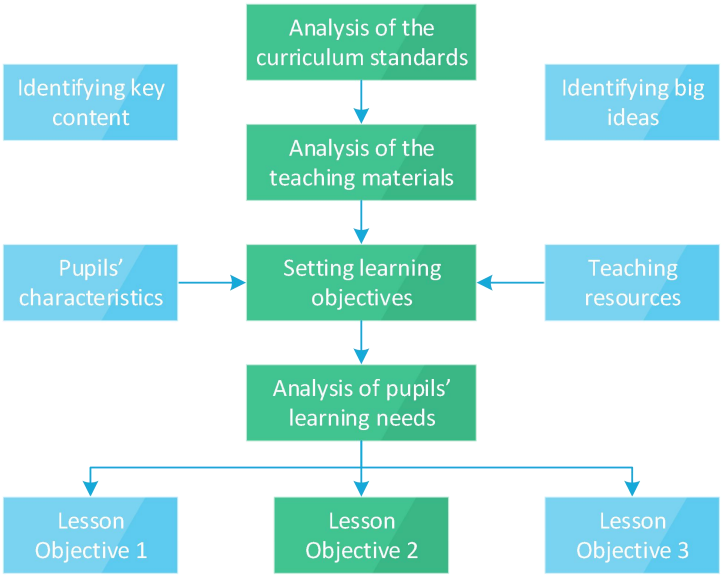

Figure 2. Flow chart for setting teaching objectives

2.1.2. Structural Style System

The "teaching-learning-assessment" integrated structure of college mental health education courses should be designed collaboratively from three dimensions: teaching synchronization, autonomous learning, and teacher-student interaction. This will form a teaching loop with consistent goals, task-driven approach, and dynamic feedback.

Teaching synchronization forms the logical basis of the structure. It emphasizes the dynamic consistency of the "teaching", "learning", and "assessment" in terms of goals, content, and time, ensuring that teachers can promptly diagnose the learning progress and dynamically adjust the teaching pace. Autonomous learning is the core path for the development of students' qualities. It requires the use of structured task chains and differentiated resources to enable students to actively construct knowledge. Teacher-student interaction is the key link for deepening learning, and it needs to be promoted through multi-dimensional dialogues and role collaboration to facilitate deep participation.

2.1.3. Teaching Activity System

The "teaching - learning - assessment" integrated teaching activities of college mental health education courses need to be systematically designed based on three dimensions: teaching phases, teacher activities, and student activities. Through goal alignment, task-driven approach and dynamic feedback, the core competencies can be deeply integrated.

The teaching phase constitutes the temporal and spatial framework of the teaching activities, following the progressive logic of "pre-class diagnosis - in-class exploration - post-class expansion". In the pre-class stage, teachers accurately identify the students' learning situations through preview and tests. In the in-class phase, a problem chain is used to link the exploration process, and students complete teaching activities or experiments in groups, gradually transitioning from observing phenomena to constructing models, and ultimately designing solutions to practical problems. In the post-class expansion, differentiated improvement is achieved through layered tasks: basic-level exercises are conducted, and experimental or activity plans are designed in combination with students' and the course's characteristics, reflecting the transfer of knowledge to practice. Teacher activities focus on guidance and regulation, combined with the process of mental health enlightenment, promoting the advancement of students' psychology and thinking towards model construction.

Student activities emphasize active participation and the generation of competencies, covering three types of practices: experimental exploration, collaborative learning and group interaction. The various elements of the teaching activities are interdependent and influence each other, forming a complex dynamic system, as shown in Figure 3.

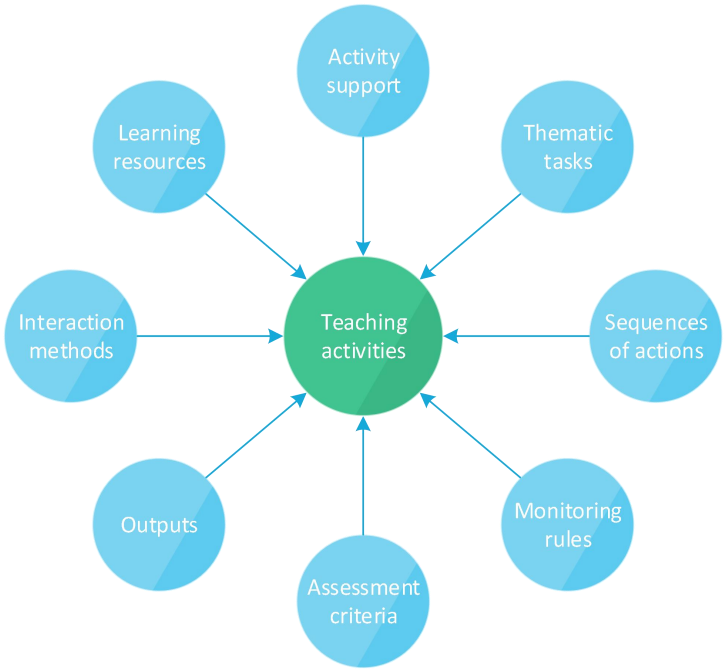

Figure 3. Teaching activity elements

2.1.4. Resource Integration System

Resource integration is a crucial support for the implementation of the "teaching - learning - assessment" integrated management. A systematic path needs to be constructed from three aspects: demand positioning, resource selection, and combination optimization. Dispersed materials should be transformed into organic carriers for the cultivation of core competencies.

Demand positioning is the logical starting point of resource integration. It should achieve precise matching based on the quality goals and students' learning situations. Resource selection should follow the principle of combining scientificity and appropriateness, filtering high-quality content through multiple dimensions of standards, and combination optimization aims to achieve collaborative value-added of resources through structured and dynamic strategies.

2.1.5. Strategy Optimization System

The optimization of the "teaching - learning - assessment" integrated management strategy for college mental health education courses should be centered on the development of core competencies. It should be achieved through problem-oriented task-driven approaches, in-depth experiments and explorations, and differentiated support through tiered teaching, to construct a dynamic teaching system that adapts to students' needs.

The problem-oriented strategy takes real social issues as the starting point, driving students to shift from passive acceptance to active construction. Teachers need to design a step-by-step problem chain to promote the advancement of thinking, thereby guiding students to progress from observation and description to innovative decision-making.

The experimental exploration strategy focuses on the visual cultivation of scientific thinking, achieving "learning by doing and thinking by evaluating" through diverse experimental designs.

The tiered teaching strategy meets students' individualized needs through dynamic grouping and differentiated tasks.

2.1.6. Multi-dimensional Evaluation System

Multidimensional evaluation constitutes an important closed loop in the "teaching - learning - assessment" integrated management system. It requires the collaborative effect of three evaluation tools - paper-and-pencil tests, outcome presentations, and thematic reports - to achieve a comprehensive diagnosis from knowledge acquisition to development of qualities. Paper-and-pencil tests are the innovative carriers of traditional evaluation, aiming at core competencies through contextualized and open-ended question designs. Outcome presentations focus on the explicit evaluation of practical abilities and innovative thinking, with multi-party scoring based on project-based learning outcomes. Theme reports concentrate on deep thinking and comprehensive expression abilities, testing the level of integrated quality through research reports, debate drafts, or proposal argumentative essays.

2.2. Teaching Design Model

Based on the theory and principles of integrated management model design, and in accordance with the "teaching - learning - assessment" integrated concept, combined with the core quality requirements of college mental health education courses, an integrated teaching design model of "teaching - learning - assessment" based on students' psychological quality was constructed, as shown in Figure 4.

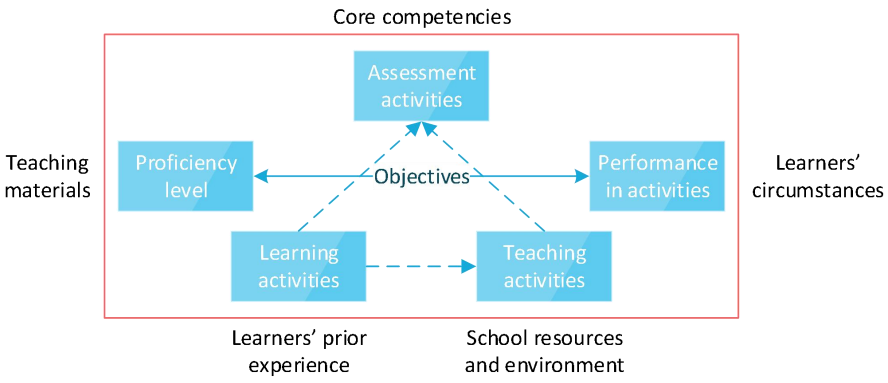

Figure 4. The integrated teaching design model of "Teaching-Learning-Evaluation"

(1) Element Analysis

In the integrated teaching model of "teaching - learning - assessment", the main elements include: "teaching", the main body is the teaching activities, teaching tasks, and teaching contents of the teacher; "learning", the main body is the learning activities, learning tasks, and learning methods of the students; "assessment", which is the formative assessment that focuses on students' learning performance, is the evaluation by the teacher of students' learning performance, and is the key to reflecting the teacher's teaching effectiveness and students' stage ability levels; "integration" emphasizes the consistency of teaching goals, learning goals, and assessment goals. Only by maintaining the consistency of these three goals can we take students as the main body and cultivate the essential qualities and key abilities necessary for students' mental health development.

The integrated "teaching - learning - assessment" is an effective teaching measure to promote the transformation of chemistry classrooms from "knowledge-oriented" to "competence-oriented". Its design should be based on the relevant requirements for students' core competencies in the new curriculum standards, the content of the textbooks and the specific learning situations of students, considering students' activity experiences and the actual resource environment of the school, so as to achieve the teaching effect of cultivating students' core competencies. The "teaching - learning - assessment" integrated teaching design based on students' mental health competencies can make the teaching goals, learning goals, and assessment goals concrete as the ability levels and activity performances in the chemistry subject, and teachers promote students to reach certain ability levels through teaching and evaluate whether students have achieved the expected expectations through students' activity performances.

(2) Consistency of "Teaching - Learning - Assessment"

The consistency of "teaching - learning - assessment" includes: "teaching - learning", "learning - assessment", "teaching - assessment", and "teaching - learning - assessment". "Teaching - learning" consistency means that the teacher interprets the core competencies requirements and academic quality standards for students in the corresponding courses in the new curriculum standards and converts them into the goals of "teaching", which are consistent with the learning goals of students to develop chemistry core competencies; based on mental health competencies, the "learning - assessment" consistency means that the teacher can preset learning goals based on the specific performance expectations of mental health competencies for students, and reflect the assessment goals in the learning goals, scientifically observe students' learning behaviors, and fully exert the guiding and feedback functions of teaching evaluation; "teaching - assessment" consistency means setting teaching tasks and activities based on learning goals and assessment goals, and teaching evaluation is the timely inspection of the teacher's teaching effectiveness, and is the basis for teachers to adjust teaching progress and modify teaching designs; the consistency of "teaching - learning - assessment" emphasizes that the teaching implementation process should be student-centered, achieving the learning goals determined by mental health core competencies, which is the prerequisite and ultimate goal of the consistency of "teaching, learning, and assessment", and integrating the evaluation of whether the learning goals have been achieved into teaching activities, which is the key to the consistency of "teaching - learning - assessment".

2.3. Teaching Implementation Model

Based on the constituent elements included in the "teaching - learning - assessment" integrated teaching design model, the relationships among "teaching", "learning" and "assessment", and the tasks and steps in actual teaching, a dynamic adjustment "teaching - learning - assessment" integrated teaching implementation model was constructed, as shown in Figure 5. This model aims to highlight the implementation and feedback of "assessment" while emphasizing "learning".

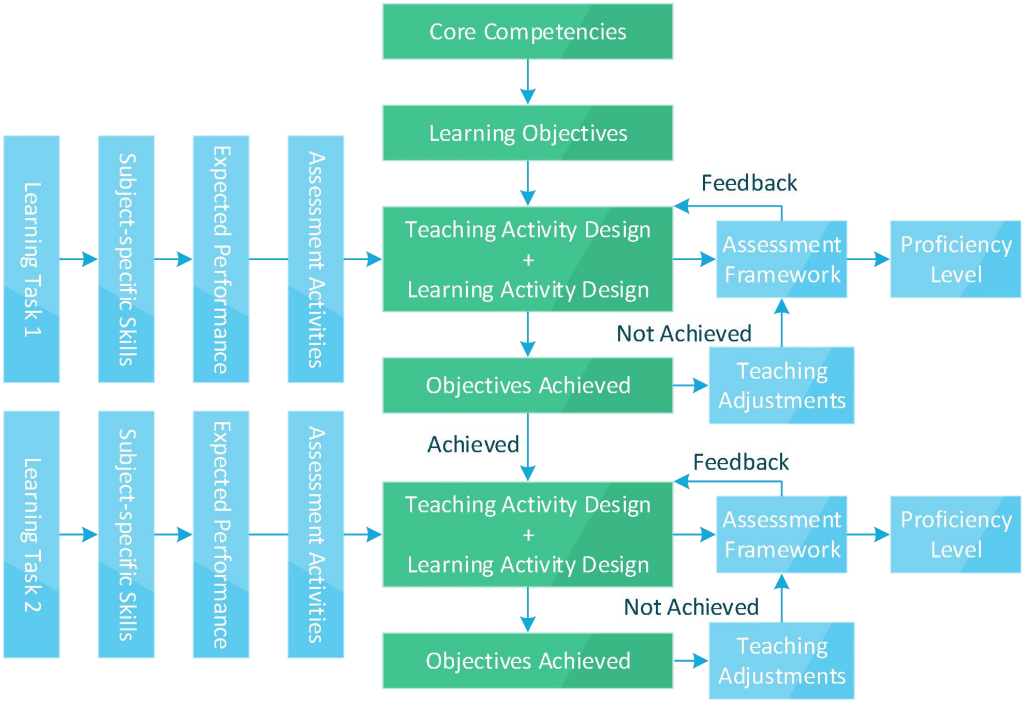

Figure 5. The implementation model of "Teaching-Learning-Evaluation" integrated teaching

The implementation of each class requires the teacher to determine the learning tasks for the students, extract the requirements for their mental health based on the learning tasks, clearly define the expected performance in each dimension, set evaluation activities based on the expected performance, set the learning goals that students should achieve, integrate the evaluation activities and learning goals to design teaching and learning activities, conduct formative evaluations of students based on their performance, and use the evaluation system to feedback whether the teaching goals and learning goals have been achieved. If the goals are achieved, teaching activities and learning activities based on the next learning task can be carried out; if the goals are not achieved, the teacher needs to make teaching adjustments, and the teaching activities after the adjustment need to be re-evaluated through the evaluation system to check whether the goals have been achieved. Ultimately, through continuous dynamic feedback, students' academic ability levels can be developed, their core literacy can be enhanced, and the "teaching - learning - evaluation" integrated teaching model can be implemented.

3. Exploration of Practical Applications

3.1. Research Design

3.1.1. Experimental Design

The research adopted a pre-test and post-test design with an experimental group and a control group. The "teaching-learning-assessment" integrated management model of the university's mental health education course was the experimental class, while the traditional mental health teaching was the control class. Firstly, the changes in the mean scores of mental health status of students in the experimental class and the control class were compared; secondly, the differences in the pre-test and post-test scores of mental health of students in the experimental class and the control class were tested for significance. The aim was to compare the differences in students' mental health status before and after the "teaching-learning-assessment" integrated teaching and traditional teaching, to determine whether these differences were significant, and to explore the evaluation of the mental health course effect by students under the "teaching-learning-assessment" integrated teaching model.

3.1.2. Research Subjects

The research was conducted on the first-year students of Inner Mongolia University of Nationalities who were admitted in the autumn of 2025. Two classes that chose the mental health courses randomly were selected as the experimental groups, one being the experimental class and the other the control class.

The experimental class had 158 students, while the control class had 154 students.

The demographic information of the experimental subjects is shown in Table 1. In the experimental class, there were 112 male students, 46 female students, 92 urban residents, 44 town residents, 22 rural residents, 38 only children, and 120 non-only children. In the control class, there were 103 male students, 51 female students, 90 urban residents, 33 town residents, 31 rural residents, 36 only children, and 118 non-only children. Since both the selected classes were from the Electrical Engineering major of Inner Mongolia University of Nationalities, from the basic information perspective, such as gender, the status of being an only child, and the distribution of the source of students, they fall within a relatively reasonable statistical range.

Table 1. Demographic information of subjects

Category		Experimental Class (N=158)		Control class (N=154)	
		N	**Proportion**	**N**	**Proportion**
Gender	Male	112	70.89%	103	66.88%
	Female	46	29.11%	51	33.12%
Place of household registration	City	92	58.23%	90	58.44%
	Town	44	27.85%	33	21.43%
	Rural areas	22	13.92%	31	20.13%
Whether an only child	Only child	38	24.05%	36	23.38%
	Non only child	120	75.95%	118	76.62%
Professional	Electrical Engineering Major	158	100.00%	154	100.00%

Since Inner Mongolia University of Nationalities conducted a psychological health assessment for all first-year students upon their enrollment, and from the list of students choosing courses, it can be seen that neither of the two classes included students with obvious psychological problems. Therefore, there was no significant difference in the overall mental health status between the experimental class and the control class. The experiment adhered to the principle of morality, and after the experiment, the same online teaching content and practical teaching sessions were arranged for the students in the control class.

3.1.3. Implementation Procedure

Before the implementation of the educational experiment, this study clearly defined the teaching objective of the course, which was to enhance students' mental health qualities. Then, two different teaching plans were determined, and a detailed research plan was formulated based on the teaching plans. The teaching period began in September 2025, with a total of 32 class hours. To eliminate the influence of irrelevant variables, the two classes in the teaching experiment were taught by the same teacher. Before the start of the course, a pre-test on the mental health status of the students in the two classes was conducted using the College Students' Mental Health Status Questionnaire. After the completion of the courses in both classes, a post-test on the mental health status was conducted.

At the same time, in order to fully understand the students' evaluation of the "teaching-learning-assessment" integrated teaching model, an investigation was conducted on the evaluation of the "teaching-learning-assessment" integrated teaching on the effectiveness of the mental health course. After the completion of the course, the questionnaires were collected and sorted, and the measurement results of the questionnaires were analyzed using the data analysis software SPSS23.0, and the research conclusion was drawn. After the completion of the course, the questionnaires were collected and sorted, and the measurement results of the questionnaires were analyzed using the data analysis software SPSS23.0, and the research conclusion was drawn. The questionnaire survey results were also fed back to the teaching teachers to provide reference and guidance for the improvement of the "teaching-learning-assessment" integrated teaching of the mental health course in the future.

3.2. Research Tools

This questionnaire covers 10 dimensions including self-awareness, career planning, learning psychology, emotion regulation, interpersonal relationships, attitudes towards love, stress and frustration coping, life outlook, subjective well-being, and adaptability. As shown in Table 2. The design of each dimension of the questionnaire follows the regulations and divisions set by the Ministry of Education for the mental health courses offered in universities, and is also in line with the special teaching content of mental health courses at Inner Mongolia University of Nationalities. The questions are mainly based on the settings of seven scales: Self-Harmony Scale (SCCS), Life Satisfaction Scale (LSR), Self-Rating Anxiety Scale (SAS), General Well-being Scale (GWB), College Emotional Stability Test Scale,

Interpersonal Trust Scale (ITS), and Career Interest (MBTI) Scale. The scores obtained from students' questionnaire responses can effectively reflect the impact of the course content on students' mental health status, and thereby demonstrate the effectiveness of the course.

Table 2. Questionnaire on the mental health status of college students

Questionnaire dimensions	The number of questions	Title number
Self-awareness	10	1-10
Career planning	8	11-18
Learning psychology	8	19-26
Emotion regulation	8	27-34
Interpersonal relationship	10	35-44
Attitude towards love	10	45-54
Coping with Setbacks and Stress	10	55-64
The ability to perceive destiny	10	65-74
Subjective well-being	12	75-86
Adaptive ability	10	87-96

The questionnaire was developed using the five-point Likert scale method. The questionnaire options consisted of "strongly disagree, disagree, uncertain, agree, and strongly agree", which were respectively labeled as "1 to 5 points". Reverse questions were scored in reverse. The Cronbach's α coefficient of this questionnaire was 0.873, and all 10 dimensions were greater than 0.8, indicating that the questions in the scale have good correlation and can consistently reflect the issues.

3.3. Comparison of Implementation Effects

3.3.1. Psychological Health Status Test

Before the start of the teaching experiment, an independent sample T-test was conducted using SPSS 23.0 software to compare and analyze the mental health status of the experimental group and the control group. The results are shown in Table 3. It can be seen that before the teaching practice, there was no statistical significance in each dimension and the total scale of mental health of the two groups of students, that is, there was no significant difference ($p > 0.05$), which met the homogeneity requirement and could be used for the intervention research of the teaching experiment.

Table 3. Comparison of the mental health conditions of the two groups before teaching

Variable	Control group (M±SD)	Experimental Group (M+SD)	*t*	*p*
Self-awareness	3.62±1.051	3.48±1.040	1.283	0.062
Career planning	2.35±1.002	2.23±0.853	0.904	0.214
Learning psychology	2.21±1.038	2.24±1.054	1.732	0.051
Emotion regulation	3.08±1.085	2.86±1.158	1.835	0.133
Interpersonal relationship	2.63±1.273	2.78±1.070	0.448	0.483
Attitude towards love	3.04±1.732	3.03±0.802	1.083	0.095
Coping with Setbacks and Stress	2.15±1.183	1.91±1.057	0.572	0.258
The ability to perceive destiny	2.30±0.927	2.49±0.956	0.508	0.438
Subjective well-being	2.72±0.985	2.42±0.982	1.244	0.082
Adaptive ability	3.25±0.898	3.08±0.740	1.834	0.094
Total score	27.35±5.210	27.52±6.037	0.908	0.205

Note: *p<0.05 indicates a significant difference, while **p<0.01 indicates a very significant difference.

After the teaching experiment, an independent sample T-test was used to compare the mental health conditions of the two groups of students. The results are shown in Table 4. It can be seen that after the teaching practice, there were significant differences in the dimensions of self-awareness ($p = 0.025 < 0.05$), emotion regulation ($p = 0.043 < 0.05$), attitude towards love ($p = 0.018 < 0.05$), coping with frustration and stress ($p = 0.006 < 0.01$), and adaptive ability ($p = 0.003 < 0.01$), as well as the total score ($p = 0.026 < 0.05$) between the control group and the experimental group. There were no significant differences in the other dimensions.

Table 4. Comparison of students' mental health conditions after practical teaching

Variable	Control group (M±SD)	Experimental Group (M+SD)	*t*	*p*
Self-awareness	3.81±1.118	4.04±1.228	2.347	0.025*
Career planning	2.43±1.234	2.53±1.089	1.118	0.138
Learning psychology	2.38±1.405	2.31±1.834	0.895	0.058
Emotion regulation	3.21±1.072	3.34±1.085	2.873	0.043*
Interpersonal relationship	2.84±1.348	2.90±1.382	1.085	0.064
Attitude towards love	2.95±1.283	3.25±0.942	3.013	0.018*
Coping with setbacks and stress	2.45±0.985	2.94±1.057	6.273	0.006**
The ability to perceive destiny	2.55±1.107	2.58±0.982	0.134	0.896
Subjective well-being	2.68±1.072	2.72±1.043	0.988	0.241
Adaptive ability	3.33±1.121	4.04±1.843	5.328	0.003**
Total score	28.63±6.728	30.65±7.105	2.086	0.026*

Note: *p<0.05 indicates a significant difference, while **p<0.01 indicates a very significant difference, the same below.

By comparing the means, it was found that the students in the experimental group scored higher than those in the control group in terms of self-awareness, career planning, emotion regulation, interpersonal relationships, attitudes towards love, coping with setbacks and stress, life perception ability, subjective well-being, adaptability, and all dimensions of the total scale. This indicates that the "teaching - learning - assessment" integrated teaching method has to some extent improved the mental health level of students.

After the teaching experiment, a paired sample T-test was used to compare the mental health status of the control group students before and after the teaching. The results are shown in Table 5. There was no significant difference in the total mental health score of the control group students before and after the teaching ($p > 0.05$). However, in the dimensions of learning psychology, interpersonal relationships, coping with setbacks and stress, and life perception ability, there were significant improvements ($p < 0.05$), indicating that the traditional teaching method has a certain promoting effect on students' mental health, but the effect is not obvious.

Table 5. The comparison of students in the control group before and after teaching

Variable	Pre-experiment test (M±SD)	Post-experiment test (M±SD)	*t*	*p*
Self-awareness	3.62±1.051	3.81±1.118	1.725	0.065
Career planning	2.35±1.002	2.43±1.234	1.223	0.283
Learning psychology	2.21±1.038	2.38±1.405	2.016	0.045*
Emotion regulation	3.08±1.085	3.21±1.072	1.526	0.058
Interpersonal relationship	2.63±1.273	2.84±1.348	2.134	0.028*
Attitude towards love	3.04±1.732	2.95±1.283	-0.805	0.438
Coping with setbacks and stress	2.15±1.183	2.45±0.985	3.021	0.028*
The ability to perceive destiny	2.30±0.927	2.55±1.107	2.825	0.031*
Subjective well-being	2.72±0.985	2.68±1.072	-0.878	0.178
Adaptive ability	3.25±0.898	3.33±1.121	1.085	0.188
Total score	27.35±5.210	28.63±6.728	1.584	0.079

After the teaching experiment, a paired-sample T-test was used to compare the mental health conditions of the students in the experimental group before and after the teaching. The results are shown in Table 6. It can be seen that there were significant differences in the dimensions of self-awareness, career planning, emotion regulation, attitude towards love, coping with setbacks and pressure, subjective well-being, adaptability and total score between the experimental group students before and after the teaching practice. Moreover, compared with before the teaching practice, the means of the experimental group students in these dimensions all increased after the teaching practice. Thus, through the "teaching - learning - assessment" integrated teaching, the mental health level of students was significantly improved.

Table 6. The comparison of students in the experimental group before and after teaching

Variable	Pre-experiment test (M±SD)	Post-experiment test (M±SD)	*t*	*p*
Self-awareness	3.48±1.040	4.04±1.228	3.183	0.018*
Career planning	2.23±0.853	2.53±1.089	2.095	0.036*
Learning psychology	2.24±1.054	2.31±1.834	0.837	0.078
Emotion regulation	2.86±1.158	3.34±1.085	2.845	0.027*
Interpersonal relationship	2.78±1.070	2.90±1.382	0.776	0.106
Attitude towards love	3.03±0.802	3.25±0.942	1.890	0.037*
Coping with setbacks and stress	1.91±1.057	2.94±1.057	7.245	0.001**
The ability to perceive destiny	2.49±0.956	2.58±0.982	1.124	0.083
Subjective well-being	2.42±0.982	2.72±1.043	2.735	0.025*
Adaptive ability	3.08±0.740	4.04±1.843	5.473	0.002**
Total score	27.52±6.037	30.65±7.105	2.834	0.012*

3.3.2. Evaluation of Teaching Effectiveness

In the independent space, through face-to-face interviews with students in the experimental group, the students' viewpoints on the "teaching-learning-assessment" integrated teaching method were collected and organized. The results are presented in Table 7. From the results, it can be seen that 89.24% of the students believe that this teaching method is helpful. Among them, the greatest help is in knowledge learning, improvement of learning interest, and cultivation of friendship. Regarding the investigation of students' learning attitudes, it was found that 94.94% of the students listened more attentively when implementing the "teaching-learning-assessment" integrated teaching. This shows that this teaching method has a special appeal in mental health education, which greatly promotes students' learning, interpersonal communication and thinking abilities. The change in students' class participation attitude is also able to motivate students' enthusiasm for class, and the emphasis on learning goals can help some students grasp the key points and improve the effectiveness of the class. In addition, the evaluation given by teachers to students has played a positive role in stimulating students' attentive listening in class. These indicate that implementing the "teaching-learning-assessment" integrated teaching method in universities can, to a certain extent, enhance students' enthusiasm for learning, enable them to grasp key knowledge more promptly, improve learning effectiveness and implement core competencies.

Table 7. Students' views on the integrated teaching of "Teaching-Learning-Evaluation" (N=158)

Title	Options	N	%
1. Do you like this way of learning?	Like	134	84.81
	Not bad	16	10.13
	Don't like	8	5.06
2. Do you think this way of learning is helpful?	Yes	141	89.24
	No	17	10.76
3. What kind of help does that offer? (Multiple Choices)	It has enhanced the enthusiasm for learning	126	89.36
	I have learned useful knowledge	125	88.65
	Improved thinking ability	97	68.79
	Enhanced self-confidence	123	87.23
	Enhanced friendship	125	88.65
	Enhanced the interest in learning	134	95.04
4. Have you been more attentive in class?	Yes	150	94.94
	No	8	5.06
5. How many times do you hope to adopt this method in your future studies?	A little more	128	81.01
	Whatever	19	12.03
	Less	11	6.96
6. Do you have any suggestions for adopting this model in mental health education classes? (Multiple choice)	Set up more exploratory activities	68	43.04
	More extracurricular materials can be provided	47	29.75
	The class hours can be increased a bit	111	70.25
	This is quite good	103	65.19

4. Conclusion

In the context of the continuous deepening of educational reforms, the importance of mental health

education in universities has become increasingly prominent. It not only concerns the current psychological state of students, but is also closely linked to their growth, social adaptation, and employability. This paper conducts a systematic study on the design and application of the "teaching-learning-assessment" integrated management model for mental health education courses under the core literacy orientation in universities. The following conclusions are drawn:

(1) Based on theoretical research and practical problems, this study has constructed an integrated teaching design process for mental health education under the core literacy orientation, including six steps such as the target system and structural style.

(2) Two parallel classes of freshmen at Inner Mongolia University were selected for teaching practice for one semester. Through pre-test and post-test comparisons, the implementation effect was explored. The results showed that the "teaching-learning-assessment" integrated teaching significantly improved students' mental health levels, and there were significant differences in self-awareness, emotion regulation, attitudes towards love, coping with setbacks and stress, and adaptability among the two groups in each dimension.

(3) The analysis of teaching effectiveness revealed that the integrated teaching model under the core literacy orientation can, to a certain extent, enhance students' learning enthusiasm, enable them to grasp key knowledge more promptly, improve learning outcomes, and implement core literacy.

This paper validates the "teaching-learning-assessment" integrated teaching model through teaching practice. It is highly operable and has a significant effect in promoting the development of students' core literacy in mental health. However, the sample size of the research subjects is relatively small, and the research results have certain limitations. In the future, the sample range can be expanded, and different regions and different levels of student groups can be selected for research to further verify the universality and effectiveness of this teaching model.

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