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Application of Drawing Practice in Elderly Care Major Teaching - A Practical Method for Improving Nursing Ability of Elderly Care Major Students

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Abstract: *As a key visual communication carrier, drawing plays an important role in medical teaching. Although the elderly care major is an emerging non-medical major that differs from traditional medical majors in terms of training objectives, basic medical knowledge is also an important direction for the cultivation of elderly care talents and it plays an irreplaceable role in the development of their professional abilities. To enhance the nursing competence of students majoring in elderly care, based on the concept of generative learning, practical forms such as integrating blackboard drawing into teaching, assigning drawing assignments after class, and conducting teacher-student co-created drawing flipped classrooms are adopted. This drawing-centered teaching model can effectively break the limitations of traditional theoretical teaching and transform abstract medical knowledge into a perceptible learning process. These practices facilitate students in improving their nursing practical abilities, humanistic care literacy, and innovative thinking during the process of actively constructing knowledge and dynamic generation, thereby cultivating high-quality applied talents for the elderly care service field.*

Keywords: *Elderly Care; Drawing Practice; Generative Learning; Nursing Competence; Teaching Application*

1. Significance of Applying Drawing Practice in Elderly Care Teaching under the Concept of Generative Learning

Drawing is one of the irreplaceable strategies in generative learning [1]. Generative learning emphasizes that learners actively participate in knowledge construction, and independently generate personalized understanding and meaning interpretation through active processing, reorganization, and connection of information [2]. Drawing transforms textual knowledge into visual images, helping learners deepen their understanding and processing of learning content through visualization, thereby enhancing learning effectiveness [3]. In basic medical knowledge teaching, drawing, as a widely recognized visual communication tool, has unique advantages in knowledge visualization, logical organization, and practical application [4-6]. With the acceleration of population aging, society's demand for professional elderly care talents is increasingly urgent, and elderly care education has thus ushered in opportunities and challenges for rapid development. As a comprehensive discipline focusing on elderly health care, although the elderly care major belongs to the non-medical field, basic medical knowledge and nursing skills have always been the core pillars supporting students in providing professional services [7]. However, in actual teaching, students with non-medical backgrounds face problems such as abstract and difficult-to-understand basic medical knowledge, and disconnection between theory and practice, which directly restrict the effective improvement of nursing competence. Therefore, how to innovate teaching methods to help students better understand and apply basic medical knowledge has become an important issue in the teaching reform of elderly care majors.

As a visualization tool, drawing is integrated into teaching through diversified forms, including

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instructors' blackboard drawing, hand-drawn assignments, and drawing-based flipped classrooms. This approach effectively guides students majoring in elderly care to sketch diagrams of human anatomy, popular science diagrams of geriatric diseases, and other relevant visuals when studying basic medical knowledge and nursing expertise, thereby facilitating the transformation from passive acceptance to active creation. It not only lowers the threshold for medical learning but also encourages students to proactively construct knowledge systems and dynamically integrate theoretical knowledge with practical experience. This paper focuses on the application pathways of drawing practice in elderly care education and conducts an in-depth exploration of its specific role in enhancing students' nursing competence, aiming to provide valuable references for the teaching reform of elderly care majors.

2. Implementation Methods of Drawing Practice

2.1 Integrating Blackboard Drawing into Teaching

Basic medical knowledge is extensive and complex. Taking human anatomy as an example, although 3D software and various popular science videos available online have achieved remarkable outcomes in anatomy teaching, it remains challenging for non-medical students to absorb such a vast knowledge system [8]. Therefore, instructors employ blackboard drawing during lectures, which is characterized by clarity and a moderate pace, facilitating students in organizing structural information. Students follow the instructor's reasoning, engage in concurrent drawing, and systematize class notes [5]. Taking the structure and digestive process of the digestive system as an example, instructors can illustrate the anatomical structures of the digestive system while explaining their functions and adjacent relationships, enabling students to establish a spatial comprehension of human anatomical structures and functions. Meanwhile, comparisons between normal structures and age-related changes can be marked on the drawn anatomical diagrams, which not only renders them intuitively comprehensible but also reinforces retention. Students are encouraged to collaborate in creating illustrative class notes, thereby fully stimulating their learning interest and enlivening the classroom atmosphere. In subsequent courses such as Geriatric Nursing and Geriatric Psychology, the accumulated basic medical knowledge can be fully integrated, aiding students in understanding the particularities of elderly care and associated psychological changes. This approach effectively addresses the challenge of learning basic medical knowledge for students with non-medical backgrounds. While enhancing the mastery and comprehension of knowledge, it also improves students' professional literacy and capacity for humanistic care in elderly care.

2.2 Assigning Drawing Homework after Class

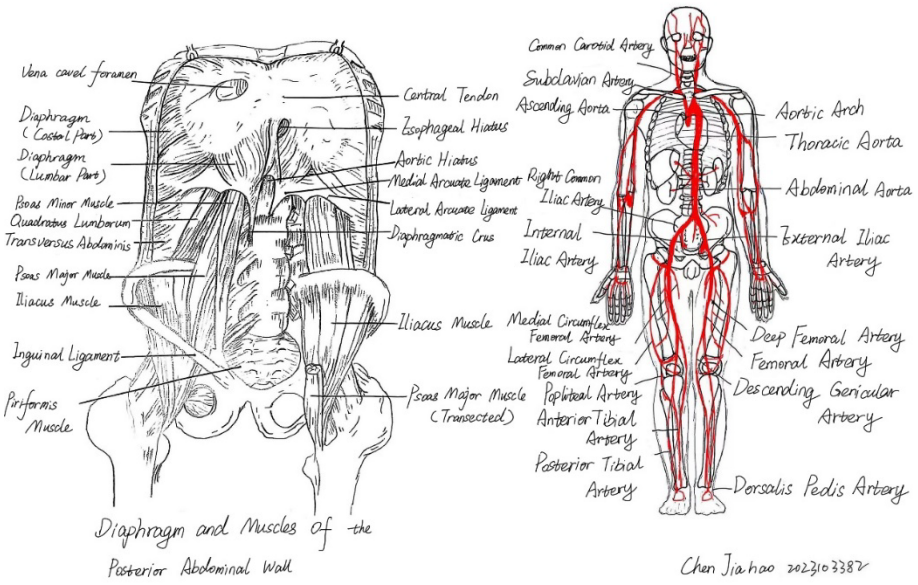

Figure 1 After-class drawing homework of elderly care major students

After class, corresponding drawing assignments are assigned to students based on the key content covered in class. Taking human anatomy as an example, students are required to sketch the structure

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and adjacent relationships of muscles, the distribution of major human arteries (Figure 1), and other related content. Through independent drawing, students further organize and consolidate classroom knowledge, while cultivating the meticulousness of thinking, the carefulness of observation, and the accuracy of expression. Instructors provide corrections and comments on the drawing assignments, which are incorporated as part of the regular assessment into the evaluation system. This approach promotes students' active engagement in drawing practice and fosters the habit of autonomous learning.

2.3 Teacher-student Co-Created Drawing Flipped Classroom

Teacher-student co-created drawing flipped classrooms are implemented via integration of drawing-based teaching and flipped classroom models. Prior to classes, instructors assign course-related preview materials, requiring students to conduct group-based independent research on such materials and subsequently create simple diagrams in a popular science format. These diagrams should be concise, comprehensible and engaging. During classes, students deliver explanations using their drawn works to disseminate knowledge to peers. Instructors provide assistance in analysis, supplementation and revision. Meanwhile, students share their drawing concepts and challenges encountered, and instructors offer guidance and explanations to collectively enhance the flipped classroom process. Taking diabetes as an example (Figure 2), students conduct a comprehensive analysis of diabetes by consulting materials, studying disease mechanisms and creating engaging drawings. This approach enables students to fully exercise their subjective initiative, facilitates teacher-student interaction, allows students to deepen comprehension of basic medical knowledge and nursing knowledge during the co-creation process, enhances the ability to summarize and organize knowledge, and cultivates students' teamwork spirit and innovative thinking.

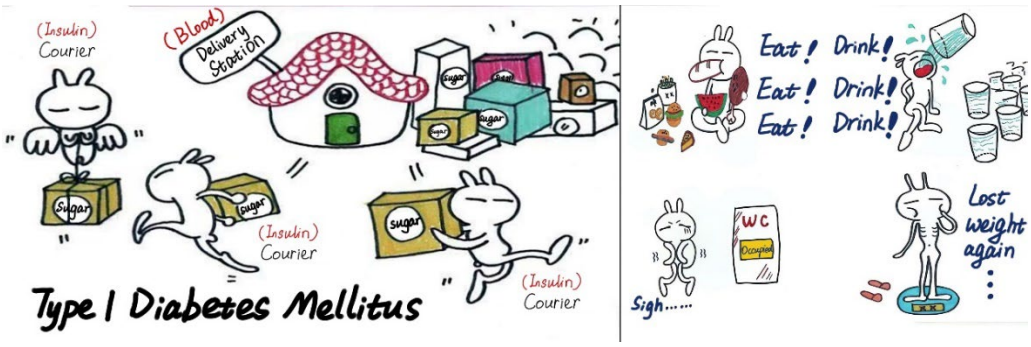

Figure 2 Students' drawing in flipped classroom

2.4 Encouraging Participation in Medical Drawing Competitions

Through the implementation of a competition-driven pedagogical approach, students are encouraged to engage in drawing competitions. For instance, the 4th "Yi Zhi Yuan" Cup Undergraduate Hand-painted Herbal Illustration Competition of Liaoning Provincial Colleges and Universities, hosted by Dalian Medical University in 2024, incorporates a medical popular science track that is highly appropriate for students majoring in elderly care. This competition serves as a platform for students to demonstrate their competencies and challenge their limits, exerting a positive influence on the stimulation of their learning motivation, innovative thinking capabilities, and psychological resilience. Furthermore, it promotes the all-round development of students through competitive and collaborative interactions [4].

3. The Role of Drawing Practice in Enhancing Nursing Competence of Elderly Care Major Students

3.1 Facilitating in-depth Understanding and Mastery of Knowledge

The knowledge system of elderly care is extensive and complex, encompassing diverse fields such as human physiology, pathology, nursing operation standards, and geriatric psychology. Drawing practice prompts students to actively organize and integrate knowledge. During the drawing process, students undergo steps of copying, consulting materials, and researching resources, ultimately presenting content in an intuitive manner. For instance, depicting the reduced elasticity and narrowed

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lumen of elderly individuals' blood vessels can facilitate students' in-depth understanding of the pathogenesis of common geriatric diseases, including hypertension and coronary heart disease. This process of materializing abstract knowledge enhances students' memory and comprehension of knowledge points, establishes a solid foundation of medical knowledge for subsequent learning of nursing skills, and enables students to make accurate judgments and responses based on robust knowledge reserves when confronting actual cases.

3.2 Improving the Accuracy and Standardization of Nursing Skills

In nursing skills training, drawing can serve as an important auxiliary tool. With the support of prior drawing-based learning and practice related to basic medical knowledge, students can also apply drawing when studying nursing skills during practical operations. Students can accurately execute operational procedures based on memory derived from drawings. Visual memory is more intuitive than textual memory [9]. For instance, in the case of complex nursing skills such as rehabilitation training movements, drawing can decompose the operational process, enabling students to clarify the sequence and key links, enhance the standardization of operations, reduce nursing errors arising from insufficient familiarity with skills, and effectively ensure the safety and quality of elderly care.

3.3 Enhancing Communication and Empathy Abilities

Elderly care work frequently requires collaboration with older adults, their families, and interdisciplinary teams. Drawing constructs an intuitive bridge for communication. Diagrams not only circumvent obscure medical terminology for older adults but also mitigate comprehension barriers arising from complex linguistic expressions, thereby effectively improving communication efficiency and students' humanistic literacy. The process through which students interpret and disseminate professional medical knowledge via drawing constitutes not only an in-depth internalization of knowledge but also a continuous expansion of their own ability boundaries. This visual representation of professional terminology enables older adults to readily understand health-related knowledge and prompts students to reconstruct knowledge systems from the audience's perspective, fostering empathy capacities for cross-group communication.

3.4 Cultivating Innovative Thinking and Problem-Solving Abilities

Drawing practice encourages students to transcend conventional thinking patterns. The transformation of textual descriptions into visual symbols inherently involves the reconstruction and re-creation of knowledge. During the process of consulting and researching information, collisions between multiple lines of thought naturally generate new observational perspectives. For instance, when assisting in research on the design of elderly care aids, students exert their creativity based on their understanding and investigation of the actual needs related to the physical structure and functional changes of older adults, tailoring solutions to diverse requirements. This process embodies innovative thinking regarding elderly care service models. It not only enhances students' capabilities in addressing complex problems within elderly care services but also injects innovative impetus into the elderly care field to meet the diverse needs of older adults.

4. Limitations and Prospects of Drawing Practice

4.1 Individual Differences in Students' Drawing Abilities May Affect Teaching Effects

Most students majoring in elderly care have non-medical backgrounds and lack systematic training in drawing. Some students may struggle to accurately express knowledge points due to insufficient drawing skills. For instance, in human anatomy drawing assignments, instructors observe that students with weak drawing foundations may only outline simple contours, resulting in vague information conveyed by the images, which in turn affects knowledge comprehension. Such differences may lead to variations in the effectiveness of drawing practice, requiring instructors to invest additional effort in personalized guidance, thereby increasing the teaching burden. To address this issue, drawing tasks can be simplified. Instructors may provide simple substitute symbols, such as using geometric figures to represent human organs, or recommend computer-aided drawing and digital drawing tools (e.g., SAI and Procreate) to lower the threshold for drawing. This allows students to focus more on knowledge expression rather than drawing skills, reducing the variation in effectiveness caused by differences in

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ability.

4.2 It is Difficult to Unify the Evaluation Standards for Drawing Results

Unlike standardized medical examinations, the quality of drawing works often depends on subjective judgment. For instance, in the context of elderly diabetes care, some works focus on dietary matching, while others emphasize visual appeal. During evaluation, it is challenging to apply a unified standard to measure the depth of knowledge mastery. Such ambiguity may undermine the credibility of assessments regarding drawing practice, thereby reducing students' enthusiasm for participation. To address this situation, a set of standardized evaluation systems should be established, encompassing knowledge accuracy, logical clarity, innovativeness, and practicality. Instructors should conduct reviews alongside student peer evaluations, incorporating assessments from the students' perspective to enhance credibility.

4.3 There May Be a Risk of Disconnection between Drawing Practice and Actual Nursing Needs

If excessive emphasis is placed on the standardization and artistry of drawing in teaching, students may direct their efforts toward image beautification rather than organizing the logic of medical knowledge and health guidance. To pursue the neatness of diagrams, students may simplify key information, which could easily reduce drawing to a perfunctory task, deviating from the original purpose of enhancing nursing competence through drawing. Therefore, instructors should provide clear guidance to students to ensure that drawing consistently serves nursing practice. This involves integrating human structures and health issues addressed in the teaching process with nursing practice, thereby avoiding formalization.

Drawing practice may have broader application prospects in medical teaching for elderly care majors, which can be summarized as follows: Firstly, it optimizes teaching methods, breaks away from the traditional single teaching mode, stimulates students' interest, and facilitates memory enhancement. Secondly, it improves comprehensive literacy. Drawing can promote artistic appreciation, enhance students' artistic accomplishment and innovative thinking, enable the exertion of imagination during creation, cultivate creativity and personal strengths, and facilitate all-round development. Thirdly, it promotes interdisciplinary integration and innovation. Drawing practice involves knowledge from multiple disciplines such as medicine, art, and psychology, promotes the integration of elderly care majors with other disciplines, explores new teaching methods and service models, and provides innovative ideas and solutions for the development of the elderly care industry.

In conclusion, the application of drawing practice in diverse forms within elderly care teaching comprehensively enhances students' nursing competence, spanning from knowledge acquisition to nursing practice, and from communication and collaboration to the cultivation of innovative thinking. Through blackboard illustrations, drawing assignments, drawing-based flipped classrooms, and competitions, students convert abstract medical knowledge into intuitive visual representations, achieving an efficient transition from theory to practice. In the context of population aging, this innovative teaching approach facilitates the cultivation of more elderly care professionals with solid professional skills, sound humanistic care literacy, and an innovative spirit, thereby meeting the urgent social demand for high-quality elderly care services. The integration of drawing practice with teaching requires continuous exploration in elderly care education, with ongoing deepening and innovation of the integration model. This not only promotes the professional development of instructors but also injects sustained vitality and talent support into the elderly care service industry, fostering the high-quality development of elderly care undertakings.

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