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From "Experience" to "Practice": An Innovative Study on the Teaching Path of Ideological and Political Education in Ergonomics Courses

Yuan Li*
Xianda College of Economics and Humanities Shanghai International Studies University, Shanghai 200083, China

**Author to whom correspondence should be addressed.*

Abstract: This article thoroughly analyzes the problems existing in the current ideological and political teaching of ergonomics courses, such as the awkward integration, the superficial nature of the experience, the weak practice, and the single evaluation. It proposes four innovative strategies: creating immersive situational experiences, establishing a real project practice platform, constructing a integrated teaching content system, and improving a diversified evaluation mechanism. Specific teaching examples are provided to clarify the implementation path. The research shows that the dual-wheel-driven teaching innovation can promote the deepening of ideological and political education from knowledge cognition to action practice, and from situational experience to emotional resonance, achieving the coordinated improvement of students' professional and ideological and political qualities.

Keywords: Ergonomics; Ideological and Political Education in Courses; Teaching Path; Value Internalization; Practice Externalization

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1. Introduction

The construction of ideological and political education in university courses is continuously deepening in the new era. Ergonomics, as a discipline that combines professionalism and humanism, requires the integration of professional skills training and value guidance in its teaching process. However, currently, some teaching practices have issues such as the disconnection between ideological and political education and professional knowledge and insufficient practical effectiveness. The ideological and political education in ergonomics is centered on the "design for the people" concept, and it achieves the integration of ideological and political education with professional teaching by exerting both value internalization and practical externalization. This approach incorporates ideological and political education into the entire process of professional teaching. It deeply explores the innovation of teaching paths from "experience" to "practice", breaks free from the existing teaching predicaments, and promotes the simultaneous improvement of students' professional spirit and professional abilities, which holds significant teaching practice significance and disciplinary development value. It aims to provide reference for relevant personnel.

2. From “Experience” to “Practice”: The Significance of Ideological and Political Education in Ergonomics Courses

2.1. Deepening the Effectiveness of Ideological and Political Education and Breaking the Dilemma of Value Transmission in Ergonomics Courses

The innovation of teaching paths from “experience” to “practice” has broken through the barrier of the mutual separation of ideological and political education and professional teaching in traditional ergonomics courses. It integrates value guidance into the entire process of professional knowledge transmission and practical ability cultivation, making ideological and political education not just an empty theoretical preaching but a concrete process that can be perceived, participated in, and practiced. Teachers design case discussions and situational experience activities that are in line with the professional scenarios of ergonomics to guide students to form emotional resonance through personal experiences of different users’ needs, gradually solidifying the professional aspiration of “design for the people”. Based on the value internalization approach of experience, it effectively avoids the problems of “formalism” and “surface-levelness” in ideological and political education, and at the same time, builds a practical externalization platform based on real social projects. Students not only improve their professional design abilities through group division and collaboration, but also hone rigorous and responsible professional attitudes and social responsibility in solving practical problems, achieving the coordinated improvement of professional and ideological and political qualities. Truly, ideological and political education is transformed from “knowledge cognition” to “action consciousness”, effectively enhancing the targetedness and practicality of ideological and political education in the course.

2.2. Cultivating Design Talents for the New Era, Meeting the Core Needs of the Ergonomics Industry Development

The development of the ergonomics industry in the new era urgently requires comprehensive design talents who possess solid professional skills, correct value orientation, and good professional ethics. The curriculum-based ideological and political teaching approach from “experiencing” to “practicing” precisely meets this talent cultivation demand. Teachers select typical cases in the industry that adhere to the “people-oriented” design concept to guide students to deeply understand the core connotation of ergonomics, which is “respecting people, caring for people, and serving people”, and establish professional values that are in line with industry development. This avoids students falling into the misconception of “emphasizing technology but neglecting humanities” in future design. In the externalization of practice stage, the implementation of real social projects enables students to face the actual needs of different groups directly, and in team collaboration, they learn to listen to different opinions and tolerate individual differences, cultivating efficient communication and collaboration skills and a respectful and inclusive team spirit. These qualities are indispensable professional qualities in ergonomics design work.

2.3. Innovating Curriculum Teaching Models, Promoting In-depth Development of Ergonomics Professional Education

Traditional ergonomics teaching mainly focuses on theoretical lectures and simple practical operations, which are difficult to fully mobilize students’ initiative and participation, and cannot effectively achieve the deep integration of value guidance and ability cultivation. The simultaneous drive of the “value internalization cycle” and the “practical externalization cycle” shifts the teaching process from “teacher-led” to “student-centered”. Students actively think in situational experiences and actively explore in practical operations, which not only deepens their understanding and application of professional knowledge but also completes value shaping and spiritual elevation subconsciously. The teaching orientation that emphasizes the deep connection between theory and practice transforms real social needs into teaching content, making professional teaching more targeted and practical. At the same time, through the construction of a team collaboration mechanism, it cultivates students’ innovative thinking and practical abilities, breaking the limitations of traditional teaching. This innovation in the teaching path not only improves the teaching quality of individual courses

but also provides a reference path for the long-term development of ergonomics professional education, promoting the professional education to develop towards higher quality and greater uniqueness.

3. Problems in the Ideological and Political Teaching of Ergonomics Courses

3.1. The Integration of Ideology and Professional Knowledge is Rigid, and the Value Guidance Lacks Targetedness

In some ergonomics courses with ideological and political teaching, teachers fail to accurately grasp the intrinsic connection between professional knowledge and ideological and political education. They simply insert ideological and political elements into the professional teaching process in a rigid manner, resulting in a disconnection between value guidance and professional content. Teachers mostly convey ideological and political concepts through theoretical indoctrination, without integrating the professional core of "people-oriented" in ergonomics and designing ideological and political teaching content that is relevant to the professional context. This leads to ideological and political education becoming empty preaching that is divorced from professional practice. Students find it difficult to establish a connection between the ideological and political requirements and professional design and practical operations. They cannot understand the guiding significance of ideological and political education for professional learning, and thus exhibit a passive acceptance of ideological and political knowledge. They are unable to naturally form emotional resonance and value recognition in professional learning, ultimately making it difficult for ideological and political teaching to achieve the core goal of internalizing value, and failing to truly serve the cultivation of students' professional qualities[1].

3.2. Experiential Teaching is Merely a Formality, and it is Difficult to Achieve Emotional Resonance

Although most ergonomics courses with ideological and political teaching introduce the experiential teaching model, the experience design lacks scientificity and targetedness. It fails to truly arouse students' enthusiasm for participation and emotional investment. The experiential activity scenarios designed by teachers mostly remain superficial and do not combine the actual needs of different groups and the characteristics of ergonomics. They do not build real and specific experiential scenarios and only complete the experiential part through simple case presentations or simulation operations. Students cannot deeply feel the humanistic care and social responsibility behind the design, and they cannot form a profound emotional touch. The experiential activities become merely "formality" teaching sessions. This formality-based experiential teaching cannot enable students to understand the original intention of "design for the people" in their personal experiences, nor can it achieve the transformation of ideological and political education from "experiential scenarios" to "emotional resonance". It is not conducive to the cultivation of students' professional values.

3.3. Weakness in the Externalization of Practice and Insufficient Cultivation of Professional Spirit

In the ideological and political teaching of the ergonomics course, there are obvious shortcomings in the design and implementation of the externalization of practice, making it difficult to effectively cultivate students' professional spirit and practical ability [2]. Teachers mostly rely on virtual projects or simple simulation practices for teaching, lacking practical platforms that connect with real social needs. Students cannot directly face the problems and challenges in actual design, and it is difficult for them to effectively combine professional knowledge with social needs. The practical component lacks a sound guidance mechanism for teamwork. In group projects, students tend to focus excessively on demonstrating professional skills while neglecting the cultivation of professional qualities such as communication, collaboration, respect, and inclusiveness. Consequently, they fail to develop rigorous, responsible professional ethics and a sense of serving society through practical activities. Weak practical externalization makes it difficult for students to translate value perceptions acquired in class into concrete actions. As a result, the cultivation of professional spirit remains superficial and fails to meet industry demands for interdisciplinary design talents.

3.4. Single Teaching Evaluation System and Inability to Balance Quality and Ability

The current teaching evaluation system for the ideological and political teaching of the ergonomics course is monotonous, focusing mainly on the assessment of students' professional knowledge and skills, while neglecting the evaluation of their ideological and political qualities and professional spirit. Teachers mostly use final exams and homework completion as the main evaluation basis, without establishing scientific evaluation indicators for ideological and political qualities, and cannot comprehensively reflect students' performance in value internalization, emotional resonance, and practical implementation. During the evaluation process, there is a lack of dynamic tracking of students' experience process, practical performance, team collaboration, etc., making it difficult to objectively measure the teaching effectiveness of the ideological and political teaching. It also fails to guide students to attach importance to the improvement of ideological and political qualities and professional spirit. This single teaching evaluation system is likely to cause students to overly focus on professional grades, neglecting the shaping of their own values and the cultivation of professional qualities, ultimately affecting the realization of the teaching goals of ideological and political teaching and not conducive to the all-round growth of comprehensive design talents.

4. From "Experience" to "Practice": Innovative Strategies for the Teaching Path of Ideological and Political Education in Ergonomics Courses

4.1. Deepen the Value Internalization Cycle, and Build an Immersive Situational Experience System

The construction of an immersive experience system can effectively activate the operational efficiency of the value internalization mechanism. Taking case discussion and situational experience as core approaches facilitates the transformation of ideological and political education from "situational experience" to "emotional resonance", helping students consolidate the original aspiration of "design for the people" [3]. Teachers should carefully select typical cases that align with professional scenarios of ergonomics and contain rich ideological and political connotations, abandoning the traditional single-mode case presentation. Integrated with key knowledge points of the course, they shall thoroughly dissect the humanistic care and professional spirit embedded behind the cases, guiding students to actively participate in discussions and express their views boldly. The establishment of a diversified situational experience platform enables the design of targeted experience scenarios based on the usage needs of different groups such as the elderly and people with disabilities. Through hands-on operation and simulated design, students can profoundly perceive the core value of "people-oriented" ergonomics, preventing experiential activities from becoming superficial.

In the teaching of ergonomic chair design, instructors select chair design cases tailored for the elderly and people with disabilities to guide students in discussing the details of humanistic care reflected in the designs and analyzing how such cases achieve a balance between practicality and inclusiveness.Subsequently, simulated experience scenarios are established, in which students wear simulated aging aids and assistive devices for people with disabilities to personally experience the inconvenience of using ordinary chairs.They then revise the design schemes by integrating professional knowledge. Through experience and discussion, students grasp the connotation of "design for the people" and establish a professional concept of respecting differences and caring for vulnerable groups.

4.2. Strengthen the Externalization of Practical Activities, and Build a Real Project Practice Platform

By relying on real social projects and scientific team collaboration mechanisms, ideological and political education can be deeply advanced from "knowledge cognition" to "action practice", effectively honing students' professional spirit and practical abilities. Teachers should actively align with the actual needs of society, precisely introduce real projects such as the optimization of community public facilities and the ergonomic renovation of office environments that are in line with the course content, and precisely connect the professional knowledge points of the course with the actual needs of society. In this way, students can gradually improve their professional skills while solving real design problems. A complete team collaboration guidance mechanism is also indispensable. Teachers should clearly define the division of labor in the group,

guide students to actively communicate and tolerate differences throughout the project process, and naturally cultivate teamwork spirit of communication, collaboration, respect, and tolerance in the process of division and collaboration.

Teachers introduce the ergonomic optimization project of community public rest areas, divide the students into several groups, clearly define the area and task each group is responsible for, guide students to conduct in-depth research in the community on the rest needs of different age groups of residents, and collect the pain points in actual use. Members within the group are responsible for the analysis of needs, scheme design, model making, etc., and during the process, they need to fully communicate opinions and tolerate different design ideas. Finally, combine professional knowledge to form an optimized plan and feedback it to the community. In the real project practice, students can cultivate teamwork ability and the responsibility of serving society.

4.3. Promote the Joint Efforts of the Two Wheels and Build a Integrated Teaching Content System

The simultaneous drive of the "value internalization wheel" and the "practice externalization wheel" requires breaking the limitation of the two wheels' teaching being disconnected from each other. The construction of an integrated teaching content system is the key support to achieve the joint efforts of the two wheels. Teachers need to integrate the elements of value internalization into each aspect of the practice externalization by combining the knowledge points of each chapter of the human ergonomics course, so that the ideological cognition and emotional resonance formed through case discussions and situational experiences can directly serve the real project practice, achieving seamless connection and synchronous advancement of "experience" and "practice"[4]. By designing cases and experience scenarios around the core requirements of the practical project, students can clearly understand that the core goal of the experience phase is to lay a foundation for practical application, avoiding the superficiality of value internalization; in the practice externalization phase, guiding students to transform the emotional resonance and value recognition formed in the situational experience into professional dedication and responsibility in project design, can solve the problem of the lack of ideological guidance in the practice externalization.

In the teaching of human ergonomics design for office spaces, the value internalization phase focuses on themes such as health protection for office personnel and improvement of work efficiency, conducting case discussions and situational experiences to allow students to feel the care for workplace personnel through reasonable design. The practice externalization phase introduces real projects of office space renovation, guiding students to integrate the "people-oriented" design concept formed in the experience into design aspects such as height optimization of office furniture and adjustment of lighting layout, and practicing the value cognition in the project practice, achieving the joint advancement of the two-wheel teaching.

4.4. Optimize the Dual-Support Mechanism and Improve the Diversified Teaching Evaluation System

The successful implementation of teaching path innovation cannot be separated from the efficient operation of the "value internalization wheel" and the "practice externalization wheel". Teachers need to build a complete case library and experience scenario resource library, continuously update case materials that are in line with social needs and professional development trends, and provide sufficient support for the orderly conduct of the value internalization phase; strengthen in-depth cooperation with social institutions and related enterprises, continuously expand the sources of real projects, improve the team collaboration guidance plan, and ensure that the practice externalization phase is carried out in a standardized and orderly manner. A single performance-oriented assessment cannot comprehensively measure the teaching effectiveness. The evaluation system needs to break this limitation and take into account the comprehensive performance of students' value internalization and practice externalization, incorporate case discussion participation degree, situational experience comprehension, project practice results, team collaboration performance, etc. into the evaluation scope, establish a diversified evaluation model combining process evaluation and final evaluation, objectively measure students' professional quality, ideological and political quality, and practical ability, and guide students to attach importance to the overall

improvement of the “experience” and “practice” process.

Teachers establish a case library for the ideological and political education of human ergonomics, covering typical cases in multiple fields such as public facilities, home environments, and office spaces, and update it regularly and provide corresponding experience scenario design plans. During the evaluation process, through classroom observation, record students’ case discussion speeches and participation in situational experiences, combine project practice reports, group collaboration evaluation forms, score comprehensively from professional skills, value recognition, team collaboration, etc., and collect students’ practice reflection reports to comprehensively evaluate students’ growth process from “experience” to “practice”.

5. Conclusion

In summary, focusing on the core goal of “experience” to “practice” in the ideological and political education of human ergonomics, this article combines teaching practice to propose targeted innovative strategies and provides specific practical cases, forming a complete research framework of “problem - strategy - example”, effectively solving the problems of mechanization and formalization in traditional teaching, promoting the integration of ideological and political education and professional teaching. In the future, it is possible to further expand real project practice scenarios, enrich the cases and experience forms of value internalization, combine industry development trends to optimize teaching strategies, continuously strengthen the collaborative effectiveness of the dual-wheel drive, and promote the quality of ideological and political education in human ergonomics courses to achieve a higher level of improvement.

About the Author

Yuan Li, born in August 1976, female, Han ethnicity, from Shanxi province, doctoral degree, senior engineer, research fields: urban renewal, environmental design.

Disclosure statement

The author declares no conflict of interest.

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