
Teaching Strategies of Junior High School Labor Education Oriented by Innovative Ability

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Abstract: Junior high school labor education is an important carrier for cultivating students' core competencies. Under the background of the new era, basic labor education is in urgent need of transformation towards an innovative ability-oriented model. Currently, junior high school labor education faces problems such as a rigid curriculum system and superficial interdisciplinary integration, which are difficult to meet the demand for cultivating innovative talents in the new era. Based on this, this paper conducts research from two dimensions: core values and teaching strategies. It proposes strategies such as reconstructing an innovative curriculum matrix, implementing a project-based teaching model, and empowering with digital technology, aiming to build a new ecology of labor education, promote the in-depth integration of labor education with the "Five Educations" (moral, intellectual, physical, aesthetic, and labor education), and provide a practical paradigm for the coordinated development of junior high school students' labor literacy and innovative ability.

Keywords: Innovative Ability; Junior High School Labor Education; Teaching Strategies; Interdisciplinary Integration; Digital Empowerment

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1. Introduction

With the successive introduction of policy documents such as *Opinions on Comprehensively Strengthening Labor Education in Primary and Secondary Schools in the New Era* and *Compulsory Education Labor Curriculum Standards (2022 Edition)*, the status of labor education in the curriculum system of primary and secondary schools has become increasingly prominent. At present, although certain achievements have been made in junior high school labor education, there are still problems in curriculum form and teaching methods. Therefore, exploring junior high school labor education strategies oriented by innovative ability is of great significance for meeting the reform needs of labor education, helping students establish correct labor values, and achieving the educational goal of all-round development of "morality,

intelligence, physical fitness, aesthetics, and labor”.

2. Core Values of Junior High School Labor Education Oriented by Innovative Ability

2.1. Promote Students’ All-Round Development

Junior high school labor education oriented by innovative ability is a growth path for students to gain practical experience, think actively, and integrate knowledge with practice. In the process of using tools, processing materials, and designing projects in various labor practice activities, students will learn to observe various phenomena in the labor process, decompose problems encountered in practice, continuously try new solutions, find new ideas through repeated adjustments, and ultimately achieve breakthroughs at the innovative level^[1]. Such labor experience can give full play to students’ perceptual and thinking abilities, effectively exercise their various abilities in labor, and truly realize their all-round personal growth through the integration of practice and thinking.

2.2. Reconstruct the Ecology of Labor Education

In response to the requirement of cultivating innovative ability, the ecology of junior high school labor education needs to make new adjustments, expand educational fields, innovate teaching methods, broaden horizons, and unite the forces of schools, families, and society. Among them, as the leader, schools can use surrounding scientific and technological innovation resources to design innovative labor practice activities, allowing labor education to break away from the traditional teaching model where all students use the same methods and standards^[2]. With the joint participation of schools, families, and society, labor education no longer simply teaches students knowledge related to labor, but focuses more on letting students exercise in practical operations. Students can also participate in labor practices suitable for themselves according to their own interests and characteristics, and gradually cultivate innovative awareness in the process of hands-on work. Such labor education can make students truly learn to think and try new methods in practice, make labor education no longer boring, better meet the needs of innovative ability cultivation, and let labor education truly play its due role.

2.3. Boost the Reform of the Integration of the “Five Educations”

Labor education that emphasizes innovative ability cultivation has a more practical and comprehensive curriculum design. This kind of labor education can well connect the five aspects of education (moral, intellectual, physical, aesthetic, and labor), and promote the coordinated development of students in these five aspects. Taking the labor practice activity of Chinese cabbage planting as an example, students need to understand the planting skills of Chinese cabbage, its growth characteristics, and the correct methods of plowing, sowing, watering, and fertilizing. In the process of planting, students need to apply the knowledge they have learned, cooperate with group members, observe for a long time, and maintain the planted cabbages. In this process, students’ intellectual, aesthetic, and moral education can all be developed. The advantage of labor education is that it can naturally integrate the educational content of the five aspects into one, better cultivate students’ comprehensive literacy, and make education more comprehensive and in line with students’ growth needs^[3].

2.4. Meet the Needs of Social Development

In the era of artificial intelligence, basic labor education is developing towards creative labor education, and profound changes have taken place in labor tools, labor foundations, and labor forms. Future society puts forward new requirements for students’ learning ability, living ability, self-governance ability, and creativity. Some basic positions in society are at risk of being replaced by intelligent machines, which means that the younger generation needs better innovative ability, communication ability, and knowledge level^[4]. Junior high school labor education oriented by innovative ability cultivates teenagers’ creative labor literacy, enabling them to keep up with the pace of industrial and technological renewal and better adapt to the development of emerging fields such as intelligent production and cultural creativity in the future. Such

labor education can cultivate suitable laborers for the high-quality development of society, help the country better build a highland of innovative talents, and truly meet the needs of current social development.

3. Teaching Strategies of Junior High School Labor Education Oriented by Innovative Ability

3.1. Reconstruct the Curriculum System and Build an Innovative Labor Curriculum Matrix

The curriculum system is the core carrier for the implementation of labor education. Junior high school labor education oriented by innovative ability needs to break the singularity of traditional courses, reconstruct a curriculum matrix that is close to students' lives, takes into account regional characteristics and innovative needs, so that the curriculum can consolidate students' foundations and stimulate creativity. In teaching, it is necessary to solidly promote basic labor courses, focus on labor and technology education, and combine basic theoretical explanations with practical training. Teachers can integrate content such as paper cutting, Chinese knot making, wire creative production, and model aircraft making to help students lay a solid skill foundation for innovative practice. Schools can also offer basic agricultural labor courses to lead students to learn skills such as the planting of common crops and the use of basic agricultural tools^[5]. Schools can also add life practice courses, such as simple cooking, woodworking, and sewing, to cultivate students' basic labor abilities.

At the same time, break disciplinary boundaries, build an integrated curriculum of "labor + disciplines", and integrate knowledge of Chinese, biology, history and other disciplines into daily labor practices. For example, Chinese disciplines can infiltrate labor education and cultural courses; history disciplines can integrate content of the history of human labor; in vegetable planting practices, integrate biological, mathematical, and physical knowledge. Let students deepen their understanding and application of multi-disciplinary knowledge in labor practices.

Promote the construction of school-based courses. Rural schools organize students to participate in practices during farming seasons and record the process and results of labor; carry out voluntary service courses, organize students to provide labor assistance to elderly lonely people in rural areas, or carry out public welfare assistance practice activities in cooperation with nursing homes and welfare institutions^[6]. Urban schools can develop school-based courses in science and technology innovation, such as 3D creative design, robot design, and basic artificial intelligence, and carry out practical activities relying on maker spaces; offer career experience courses, cooperate with local enterprises and scientific research institutions, and let students experience the labor content and innovative requirements of different professional scenarios.

Design practical thematic courses. Around real life and social needs, develop thematic courses such as "Life Tips", "Use and Improvement of Labor Tools", and "Reuse of Living Waste" to stimulate students' innovative thinking. Carry out "Labor Education Theme Month" activities, link family education scenarios, promote school-family collaborative practice activities, and set up links such as evaluation, experience, and display to improve students' labor literacy and innovative ability.

3.2. Innovate Teaching Models and Build Project-Based Practical Innovation Paths

Traditional labor teaching is difficult to stimulate students' innovative thinking. Teachers need to innovate teaching models, take real practical projects as carriers, build project-based innovation paths, and let students learn to think and dare to innovate in hands-on practice.

In teaching, real problem scenarios close to students' lives can be created, and challenging and open tasks can be set in combination with daily labor scenarios. For example, in the "Seal Carving" project, guide students to think about how to carve layered patterns with ordinary erasers, and activate innovative thinking by guiding students to discover, analyze, and solve problems.

Implementing project-based learning methods is more in line with students' cognitive characteristics. Taking the seal carving project as an example, students need to first master basic skill exercises, then carry out creative design, and finally

apply it in real scenarios. This allows students to gradually master skills and stimulate creativity; combine content such as woodworking and handcraft creativity, let students start with imitative operations, then independently improve, and finally carry out original design. At the same time, connect with actual social needs, guide students to design labor works serving the community, and make innovative achievements close to life and serve life^[7].

3.3. Digital Technology Empowerment to Expand the Boundaries of Innovative Practice

The reasonable use of digital technology in junior high school labor education can break the time and space limitations of practice, refine skill guidance, make innovative practice more feasible and interesting, and conform to the current development trend of labor education. In the teaching process, teachers can use micro-lecture supports to decompose complex skills. Break down complex labor processes into operable unit modules, make 3-5 minute special micro-lectures, and clearly show tool usage methods and operation process points^[8]. For example, in the “Making Luban Lock” course, make micro-lectures for four stages: wood selection, tenon positioning, tenon cutting, and assembly debugging, generate QR codes and print them on workbenches, so that students can scan the codes to review at any time. By setting data collection points such as the frequency, type, and duration of labor participation, combined with data analysis technologies such as machine learning, a digital portrait of labor education can be created for each student. For example, in the “Potted Chinese Rose” course, real-time record data such as students’ planting time, soil selection, and watering frequency, and teachers send guidance information in a timely manner through terminals. Students upload potted photos on the class sharing platform and exchange comments with each other.

In addition, teachers can also build an online-offline integrated teaching model. Online, build a digital resource platform, integrate materials such as virtual simulation, micro-lecture videos, and interactive courseware, and establish students’ electronic growth files; offline, carry out physical labor practices relying on intelligent tools, and collect operation data through Internet of Things equipment^[9]. Taking the “Weaving Storage Basket” project as an example, before class, teachers can lead students to practice basic weaving methods through VR simulators; during class, adopt a “dual-teacher classroom” model, where craftsmen demonstrate skills online and teachers guide students to carry out practical operations offline, with AR glasses projecting correction guidelines in real time. After class, students’ works can also be 3D scanned and uploaded to the cloud exhibition hall to achieve all-time immersive learning.

3.4. Build a Collaborative Ecology and Strengthen the Guarantee for Innovative Practice

The innovative development of labor education cannot be separated from the support of various parties. Schools need to build a school-family-society collaborative education environment, and provide solid guarantees in terms of teachers, resources, and systems to make innovative labor education truly take root.

First, schools should strengthen the construction of the teaching staff, build a composite teaching team with both labor education and innovative education capabilities, carry out special training, teaching and research exchanges, interdisciplinary cooperation, etc., to improve teachers’ curriculum development, project design, and digital teaching capabilities. At the same time, implement the “mentor-apprentice system”, invite university teachers, industry experts, and skilled craftsmen to serve as off-campus mentors to guide students in innovative practices.

Second, integrate internal and external school resources to build a labor education resource system of “campus - family - community - countryside - mind”. Build maker spaces and labor practice bases on campus, and equip students with equipment such as 3D printers, laser cutters, and intelligent sensors; off-campus, link families to set up “Family Labor Day” and develop parent-child “labor-creation” courses; cooperate with enterprises, universities, and scientific research institutions to establish career experience bases and scientific innovation practice platforms, providing students with real innovative practice scenarios^[10].

Third, improve the school-family-society collaborative mechanism. Schools formulate labor education implementation plans and integrate innovative education through activities such as “Labor Week” and “Science and Art Festival”; families should actively cooperate with schools to cultivate students’ labor habits, and encourage children to participate in

housework and family innovative practices; all sectors of society provide schools with support such as venues, equipment, and experts, invite model workers and scientific and technological workers to enter the campus to share experience, and organize students to carry out research activities, forming a joint force for school-family-society collaborative education.

4. Conclusion

Junior high school labor education oriented by innovative ability is an inevitable requirement of education reform in the new era and an important path for cultivating innovative talents. Junior high school labor education should fully combine the resource endowments of different regions and students' characteristics, flexibly use various teaching strategies, and let students activate innovative thinking, improve innovative ability, and shape innovative qualities in labor practice. In the future, junior high school labor education needs to further deepen interdisciplinary integration and digital transformation, continuously explore new educational models of "labor + scientific innovation", and constantly improve the collaborative education mechanism, so that labor education can truly become an important carrier for cultivating students' innovative ability and comprehensive literacy, and lay a solid foundation for students' all-round development and lifelong growth.

Disclosure statement

The author declares no conflict of interest.

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