

A Practical Study on Integrating Labor Education into Primary School Science Teaching

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Abstract: At present, with the continuous improvement of our emphasis on basic education, it is a tendency to carry out labor education to further promote the all-round development of elementary school students. Primary school science is a discipline combining practice and theory. Under the background of quality education in the new era, integrating labor education into this discipline has certain positive significance for the growth and development of primary school students in the future. Therefore, this paper discusses the necessity and significance of integrating labor education into science teaching, and puts forward the following countermeasures for specific integration methods, hoping to have some reference value for the relevant researchers.

1. Introduction

In April 2022, the Science Curriculum Standards for Compulsory Education clarified that primary school science is a comprehensive basic course that reflects the nature of science in primary school compulsory education and is practical, and proposed that 10% of the time in the course should be used for interdisciplinary teaching. Labor education also focuses on the basis of life production, rich in content and comprehensive, emphasizing that students pay attention to hands-on practice and use their hands and brains. Therefore, the effective penetration and integration of labor education into primary school science teaching is not only beneficial to strengthen the teaching practice of the subject, but also can stimulate the enthusiasm and initiative of students to participate in the practice, and is more conducive to the cultivation of students' good labor literacy and scientific literacy^[1]. At the same time, primary school science textbooks contain rich content of labor education, including training labor consciousness, correct labor attitude, developing labor habits, training labor skills, etc.

Primary school science and labor disciplines are also comprehensive, requiring students to combine what they have learned with their existing experience, combine book knowledge with social practice, and combine understanding nature with solving problems^[2]. Labor education is an important part of education. It is an important way to integrate labor education into the teaching of various subjects reasonably and effectively. Teachers should fully explore and develop labor education resources in subject teaching, and fully demonstrate the value of labor education through teaching implementation. The integration of labor education into primary school science teaching means that the objectives and contents of labor education are organically infiltrated into the primary

school science teaching system through certain educational and teaching means, and become a component of primary school science teaching. How to implement labor education through primary school science teaching and give full play to its role of education? Science teachers should first take the new curriculum standard as the guide, clarify the concept of integrating labor education into primary school science teaching, construct the goal of integrating labor education into primary school science teaching, fully explore the explicit and implicit teaching content related to labor education, expand teaching resources, and flexibly use various teaching methods and strategies in the practice process of content. It can be seen that integrating labor education into science teaching is not only a matter of policy, but also conforms to the objective law of subject teaching.

2. The necessity of integrating labor education into primary school science teaching

The necessity of integrating labor education into primary school science teaching is obvious. This is mainly because in the education and teaching of various subjects in primary school, it is relatively difficult to integrate Chinese, mathematics, English, music, art and other courses into labor education, and the above subjects are not closely related to labor education itself. Primary school science subject is different, contains a lot of practical teaching content, suitable for integration into labor education.

Through the literature search of the authoritative academic website, it is found that the experts and professors in the current academic circles also support the integration of labor education in the primary school science teaching, and put forward their own views. For example, Shi ^[3] points out through research that the current primary school students generally lack labor education, and labor education can only be realized through a large number of practical activities. Compared with Chinese, mathematics, English and other courses, primary school science provides a good opportunity for the integration of labor education with its outstanding practicality. Moreover, it is also very necessary to integrate labor education into primary school science teaching, which can help primary school students to set up correct labor concepts and develop good working habits. Li ^[4] believes that labor education in primary school education has been not clear for a long time, and labor education is in a relatively lacking state in some stages. To a large extent, the lack of labor education brings many problems for the all-round development of primary school students, such as laziness, lack of self-care ability, lack of strong will to do things, do not have a correct cognition of labor and so on. Therefore, in primary school science teaching should be integrated into labor education, so that primary school students in the study and experience of science curriculum to establish a good concept of labor, and even develop relatively good labor habits. Lin ^[5] believes that labor education is an important part of human education, and we should attach great importance to labor education if we want to train more "sound" people. Primary school science curriculum has a very outstanding practical, and has a relatively high degree of fit with labor education, therefore, in primary school science teaching should be integrated into labor education.

3. The significance of integrating labor education into primary school science teaching

3.1. Contribute to the all-round development of primary school students

Primary school education is an important part of our compulsory education, so the realization of the goals of compulsory education phase education teaching, and primary school education teaching has a very direct connection. What we carry out in the stage of compulsory education is quality education. The goal is to train talents in the new era with all-round development of morality, intelligence, physique, beauty and labor. However, it is found through the practical investigation that most primary schools do not pay enough attention to the labor education of primary school

students in the education and teaching, and even some primary schools neglect the labor education of students. The deficiency of labor education is not conducive to the all-round development of primary school students, nor is it conducive to their physical and mental health. To some extent, labor education not only brings primary school students to master knowledge and skills, but also can help primary school students to set up correct values, and become a new era talent with all-round development of intelligence, thought and values.

3.2. Help primary school students form a good concept of labor

The concept of labor is one of the necessary concepts that every person should have. In social life, labor is closely related to everyone, our clothing, food, housing and transportation are produced in labor, in labor. So primary school students should have a good concept of labor. At present, the education and teaching of primary schools in China always focus on the achievement of primary school students, without allowing primary school students to get more opportunities for labor education, so it is difficult for them to form a good concept of labor. Integrating labor education into primary school science teaching can provide students with the opportunity to work, so that they can set up the correct concept of labor. The science curriculum standard has very detailed requirements for the cultivation of scientific attitude of students in each learning section.

The formation of scientific attitude is closely related to labor practice, so it is helpful for elementary school students to form a good labor concept to reasonably integrate labor education in the course of science education and teaching at present. For example, help primary school students to form the right concept of love and respect for labor, reduce the appearance of the concept of lazy labor, labor discrimination and so on.

3.3. Help primary school students master certain labor skills

The formation of labor skills is the inevitable result of labor education. Through a lot of practice, it is found that people acquire labor skills from labor education. Therefore, carrying out labor education in the primary school education stage can enable primary school students to master certain labor skills. Primary school science is a practical and comprehensive teaching course, and there are a lot of experimental inquiry activities in primary school science education. For example, observing the growth and development of animals and plants, carrying out some scientific inquiry activities, etc., all need primary school students to master a certain basis of labor skills, experience the beauty of science through specific practical operations, feel the fun of labor, and know the hard-won results of labor. This creates good conditions for primary school students to master certain labor skills. Therefore, it can be seen that integrating labor education reasonably in the teaching process of primary school science curriculum can help primary school students master certain labor skills.

3.4. Help primary school students develop good working habits

The formation of labor habits is not overnight, it needs a certain amount of time. It is difficult to help primary school students form good working habits only by relying on some propaganda activities or irregular working experience. Science courses in primary schools are of a long-term nature, especially science studies have been offered since the first grade. In addition, science is the most tedious course in teaching, but it is very helpful to cultivate students' labor habits, not only the habit of preparing before class, but also the habit of operating in class and the habit of sorting out materials after class. This habit should be extended from first grade to sixth grade.

4. The strategies for integrating labor education into primary school science teaching

4.1. Integrate labor education through practical activities

If we want to realize the high integration of science teaching and labor education in primary school, we can realize it through practical activities. In the core content of primary school science curriculum, there are a lot of contents related to biology, life and environment. For example, the growth, germination, flowering and fruiting of seeds, and the birth, growth and metamorphosis of animals. The existence of a large number of biological subjects in primary school science curriculum provides a lot of opportunities for primary school students' labor education.

Teachers can develop it from two channels in class and after class. First, in-class practical activities, is the primary school science textbooks on the theoretical content into labor practice activities. For example, in the development of primary school science curriculum, students are organized to practice the content of "three-dimensional small garden". It can be found that under the systematic guidance of teachers, students have a strong sense of participating in practical activities, and can conscientiously carry out activities in accordance with the established labor plan. From the students' labor logs, it can be seen that most students can experience the fun of work through the planting activities of "three-dimensional small vegetable garden", form certain labor concepts, and master certain labor skills. Second, encourage primary school students to spontaneously carry out some extracurricular scientific experiments with the help of extracurricular materials to reflect labor education. With the continuous development of the Internet, the content and learning resources that can be used for primary school science education are very rich. There are not only pictures and text materials, but also a lot of video materials for further study. Primary school students have a very strong curiosity, they are willing to engage in some scientific research attempts. Compared with the content of primary school science textbooks, the content of science experiments based on the Internet is more in line with the individualized demands of primary school students. When primary school students carry out a lot of scientific experiments, they can not only form a good idea of labor, but also have certain labor skills. Therefore, it is one of the effective ways to integrate labor education reasonably in the teaching process of primary school science curriculum and practice labor education with the help of scientific experiment activities.

4.2. Create scientific experiment base to deepen labor education

At present, the reason why most primary schools fail to realize the deep integration of science education and labor education is closely related to the imperfect construction of science experiment base. If we want to embody labor education in science education, we must have a special practice base. In many cases, the practice base gives primary school students a firm confidence in science education and labor education.

For example, the establishment of a special biological plantation in the primary school park and the construction of a relatively large-scale science and technology exhibition hall, physics laboratory, chemistry laboratory, etc., can intuitively tell the primary school students that the school attaches great importance to their science education, and also attaches sufficient importance to their labor efficiency. A large number of practical studies show that the primary school students cultivated by biological plantations, physical laboratories, chemical laboratories and other scientific practical education infrastructure is relatively complete generally have a good concept of labor, labor skills and relatively good working habits. On the other hand, in those primary schools where the infrastructure of scientific experiment education is not perfect, most of the primary students have not formed good labor concepts and habits, and have not mastered enough labor skills. Therefore, it is one of the effective ways to integrate labor education reasonably in the

teaching process of primary school science curriculum and to create scientific experiment base to deepen labor education. Only with a perfect science experiment base can we guarantee the effective integration of science teaching and labor education in primary school from the perspective of ideology and material conditions.

4.3. Promote the development of labor education through science and technology competition activities

Integrating labor education into primary school science teaching needs the active cooperation and participation of primary school students. Without the active cooperation and participation of primary school students, no matter how good the material conditions are, it is difficult to achieve. If primary school students have a positive attitude towards learning and a strong sense of participation, it will become very easy to achieve the integration of science education and labor education in primary school. Competition, as the main way to stimulate primary school students' learning enthusiasm and participation consciousness, is the only choice for primary school students to integrate Labour education into science education. Primary school students are in the critical stage of growth and development, they have a strong competitive heart, but also like to show their excellent or different through some competition activities.

For example, school science and technology competitions are held to encourage primary school students to complete their "scientific and technological inventions" through hard work, constant exploration, and careful observation and thinking. In addition, in addition to the organization of science and technology competition activities in the school, the school can also encourage and guide students to actively participate in some science and technology competition activities outside the school, so as to further promote the practice of labor education in science teaching.

4.4. Optimize the evaluation mechanism to ensure the implementation of labor education

The evaluation mechanism has a direct influence on the integration of labor education into primary school science teaching. Scientific evaluation mechanism in line with teaching practice needs can promote the improvement of educational effect; On the contrary, the teaching evaluation mechanism which violates the demand of practical teaching and is not scientific enough will hinder the improvement of teaching effect. Therefore, the evaluation mechanism should be constantly optimized in the practice process of integrating labor education into primary school science teaching.

Specifically, the evaluation mechanism should be constructed from several aspects. First, the primary evaluation object is the labor process of primary school students. In the past education and teaching evaluation, most of the teaching results as the main basis for the evaluation of teaching results, to the teaching process is relatively low. In labor education, whether the results of labor education are measured mainly depends on whether the students have formed a good labor idea or labor consciousness, whether they have better mastered labor skills and whether they have developed good labor habits. If in primary school science teaching into labor education, help primary school students to set up a good labor concept or labor understanding, let primary school students master certain labor skills, and form a good labor habits, then, such labor education is successful. Therefore, the evaluation of labor education mainly comes from the evaluation of the process. Second, the evaluation of integrating labor education into science teaching in primary schools should be intuitive. For primary school students, their evaluation of fuzziness is often difficult to understand, and only those who are more intuitive evaluation can have a clear cognition. For example, the quantitative evaluation of primary school students' labor performance in science teaching, through the form of concrete scores show primary school students, rather than "excellent,

good, medium, poor" or "A, B, C, D" and other vague evaluation highlights the significance of teaching evaluation.

Integrating Labour education into primary school science teaching not only meets the development requirements of current compulsory education, but also can promote the all-round development of primary school students. The integration of labor education in primary school science teaching should be measured from three aspects: whether the integrated labor education behavior can help primary school students establish correct labor concepts, whether the integrated labor education behavior enables primary school students to master certain labor skills, and whether the integrated labor education behavior enables primary school students to develop relatively good labor habits. However, integrating labor education into primary school science teaching is a long-term process, which cannot be achieved overnight, but can be achieved through continuous persistence and efforts. In primary school science teaching, educators should set up a good concept of labor education and put labor education into place in daily teaching activities. The majority of primary school students should also, under the guidance of teachers, consciously carry out labor activities, through a lot of labor practice to improve their labor literacy.

5. Conclusions

At present, with the continuous improvement of our emphasis on basic education, it is a tendency to carry out labor education to further promote the all-round development of elementary school students. Based on this, on the basis of theoretical and practical research, the following aspects of cognition are obtained. First, integrating labor education into primary school science teaching has multiple meanings. For example, the integration of labor education in primary school science teaching contributes to the all-round development of primary school students, helps primary school students to form a good concept of labor, helps primary school students to grasp the formation of certain labor skills, and helps primary school students to develop good working habits. Secondly, it is a long and arduous process to integrate labor education into primary school science teaching, which needs a correct approach. Therefore, it puts forward four development paths, namely, to practice labor education by means of scientific experiment activities, to deepen labor education by establishing scientific experiment bases, to promote the development of labor education by scientific and technological competition activities, and to optimize the evaluation mechanism to safeguard labor education.

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References

- [1] Zhang X. J. (2022) *Research on primary school science curriculum based on the concept of labor education. Education and Equipment Research*, 38(11), 17-20.
- [2] Xu L. N. (2022) *Analysis on the path of integrating labor education into primary school science teaching. Modern Education*, 10, 37-39.
- [3] Shi Q. X., Liang Y. (2020) *Creating a warm education environment - research on the innovation and practice of elementary school labor education and science integration school-based curriculum. Guangxi Education*, 24, 13-15.
- [4] Li H. M. (2021) *Practice and thinking of integrating labor education into primary school science teaching. New Curriculum Guidance*, 18, 56-57.
- [5] Lin J. P., Zhao Q. Y., Wu Q. Y. (2020) *Practice research on effective labor education in primary school science class. Education and Equipment Research*, 37(3), 17-19.