Ecologicalization of Physics Education and Its Enlightenment to Physics Curriculum Reform

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Physics education refers to an important part of middle school and university education all over the world. With the development of new curriculum reform, the ecology of physics education has been gradually applied. The ecologicalization of physical education refers to the flexible grasp of the knowledge we have learned in peacetime and the application of it to life. The main purpose of our study of physical knowledge is to use physical knowledge to explain various phenomena in life, and to use physical knowledge to analyze the causes of various problems, so as to find out the ways and measures to solve the problems. In the process of teaching we can give full play to students’ subjective initiative, stimulate students’ creative thinking, and improve students’ comprehensive quality.

Keywords: ecology of physics education, physics curriculum, reform, enlightenment

Introduction

In combination with the current teaching mode of our country, teachers mainly focus on the classroom when teaching; teachers explain the knowledge in the classroom, through the continuous and repeated speaking of the problem to inculcate a large amount of knowledge to the students, although this teaching mode can let the students remember a large number of knowledge points in a certain period of time, but the students lack of hands-on ability, not linked with the actual life, so there will be knowledge fault. The ecology of physics education makes up for this kind of knowledge fault, which can make students realize the importance of physics to us and deepen their understanding of physics. Therefore, teachers should strengthen their guidance to the students in the process of teaching, introduce the physical phenomena in life into the classroom teaching, better to let the students understand and remember, and give full play to the creativity of the students, so that the students can really draw a conclusion (Xing, 2010).

The Drawbacks of Physical Education

Teachers in the traditional physics education classroom are more through the textbook content to explain, through the common exercises encountered problems to strengthen the understanding of knowledge points, but students in this case are passive learning, lack of active learning ability, numb follow the teacher, and do not
have their own thinking ability. Physics education is a more difficult course to learn in our study, the knowledge points are more cumbersome, with strong theoretical and practical, and because of the social pressure to lead to the lack of scientific innovation awareness in the process of learning, there is no practical exploration ability. The traditional physical education is facing the pressure of examination-oriented examination in the process of teaching which is often a large number of questions as the center; more prominent students on the understanding of theoretical knowledge, without the spirit of scientific research; cannot be closely linked with the actual, so physical education is facing a large number of drawbacks, which need to carry out teaching reform (Wang, 2017).

**The Advantages of Ecologicalization in Physical Education**

The emergence of the ecology of physics education has greatly alleviated the students’ learning pressure, which can make students become passive and active, give full play to students’ subjective initiative, enable students to follow their own learning situation, study in a planned way, formulate their own learning plan, and narrow the distance between students and teachers through this form of learning; students can be more interested in the process of learning, enrich their own physical learning system, and improve their learning ability. Through this kind of ecological teaching method, teachers and students can improve their understanding of the problem; teachers and students through this ecological learning model can better enhance the interest of learning physics and reduce the pressure of teachers’ teaching; students can focus on learning in the process of learning, better absorb physical knowledge, cultivate students’ interest in learning, so the ecologicalization of physics education makes physics classes no longer boring, but full of fun. Through this way, students can understand the mystery of physics in the process of learning and understand the meaning of physics course for other courses.

**Improving Teaching Efficiency and Cultivating Students’ Interest in Learning**

The rational application of physical education ecology can effectively improve the teaching efficiency and enable students to better understand and master the key points of learning in a certain period of time; teachers should change the inherent teaching concept in the process of teaching, and prepare solid lessons. Under the influence of the new educational concept, some traditional educational and teaching ideas in the past cannot adapt to the present educational and teaching mode. In order to adapt to the new modern teaching mode, teachers should constantly improve themselves from two aspects. On the other hand, it is also necessary for teachers to turn passivity into initiative, to take the initiative to care for students, to carefully find out the problems existing in some aspects of students, to better solve them, whether it is the problems of learning or the problems encountered in life, to better communicate and solve them, to better educate students, and to establish a good relationship between teachers and students, which is of great help to improve classroom efficiency. As a teacher, it is also necessary for the teacher to prepare the lesson efficiently before teaching. Only by preparing the lesson better can the students learn more efficiently in the course of the class. The basic premise of improving the quality of physics teaching is to prepare the lesson in advance (Lai, 2016).

Through good teacher-student relationship and good classroom learning efficiency it can improve students’ learning habits, make students have great interest in learning, improve learning initiative, make students better apply theory to real life when learning physics, and give better play to the physical phenomena in life.
To Achieve the Goal of Teaching and Develop Students’ Practical Ability

In the process of teaching, teachers should not only complete the teaching tasks stipulated in the syllabus, but also let students better exercise their own learning ability and practical ability. In this case, what teachers should do is to improve their own teaching ability and make the ecology of physics education more clear. Students can get exercise in their study, teachers can improve their practical ability in combination with the ecological teaching method of physical education, and students can operate through the practical content in the teaching material. The ecologicalization of physical education is to pay enough attention to the cultivation of students’ practical ability, independent inquiry ability, and cooperative communication ability, and the teaching content is not only to impart theoretical knowledge, but also to contain more abundant, open and diversified information (Zhu, 2015).

Before carrying out practical operation, teachers need to explain students’ safety knowledge, master some useful information conveyed by teaching materials skillfully, and use teaching materials creatively to convey some physical knowledge to students. For example, in the process of exploring physical knowledge, we can use tools and equipment to carry out diversified teaching methods to stimulate students’ enthusiasm. In addition, when designing some problems, teachers also need to design some representative and valuable questions that can arouse students’ thinking, and set aside more time for students to think. For some more difficult problems, teachers can also give points in time to broaden students’ thinking, and students can master more knowledge with the help of teachers.

For example, the application of pulley in life, with the continuous development of technical level, the improvement of industrial level, people use tools to improve efficiency to reduce the burden; many of the life will be applied to physical phenomena, in the construction site tower crane through the pulley to reduce gravity, the use of pulley groups in life: crane, upstairs lifting weight, bicycle, elevator. The advantage of the pulley group is that it combines the fixed pulley and the moving pulley, which can change the direction of the force as well as the size of the force, and can pull the object very labor-savingly, and the more the moving pulley used in the pulley group, the more the force is saved (see Figures 1, 2, 3).
The ecologicalization of physics education has changed teachers’ teaching methods, strengthened teachers’ attention to students, and also strengthened students’ ability of autonomous learning. Adding physical phenomena in life to classroom teaching can improve students’ comprehensive ability, help students find physical phenomena in life, and apply physical knowledge flexibly to life practice. Teachers should strengthen students’ physical system, cultivate students’ scientific research consciousness, and cultivate the pillars of national physical development. The application of physical knowledge to the classroom can highlight the strong practicality of physics; students in the process of practice can be through the summary and extension of its laws; in our real life, students can according to their own in the classroom to learn the knowledge of hands-on, with the help of some equipment to make their own small inventions, through these small inventions to enrich their own and encourage students to learn knowledge better application to life.

Improve students’ innovative thinking ability, to help students master the knowledge points better, to be able to link up the knowledge learned, to become a knowledge chain, so that students have good physical thinking; only in this way, students in the process of learning are able to search in memory at any time to be applied.
Conclusion

With the continuous development of ecology of physical education, students are placed in the main position; people-oriented, better exercise students’ learning autonomy, so that students have a good interest in learning in the process of learning and can fully apply theoretical knowledge to real life; only the flexible application of the knowledge can really achieve learning useful. The ecological teaching of physical education breaks the traditional teaching mode and can adapt to the teaching level at the present stage.

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