The Practice of Modern Electronic Technology in the Development of New Energy

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Abstract. With the rapid development of economy and the overall progress of society, as a large country of energy consumption, it is urgent for China to solve the problems of energy supply and environmental pollution, so it is imperative to develop and utilize new energy. As a key technology in power generation, the development of power electronics technology is directly related to the development and prospect of new energy generation technology, and affects the development and progress of society. Based on the development of new energy and materials industry, this paper expounds the application results of electronic technology, and analyzes and expounds the application of electronic technology in new energy materials industry. We should use computer technology properly to realize the development of modern electronic technology in new energy.

Keywords: Electronic, Technology, Energy

1. Background information
Faced with the large number of students majoring in electronic information in Our country, the traditional experimental teaching mode is arranged according to the classroom and fixed experimental course content, which lacks flexibility and detail in practical application. With the development of electronic technology, the efficiency of clean renewable energy such as wind energy, heat energy, solar energy and geothermal energy has been greatly improved. Electronic devices from diodes to bipolar transistors to power FET transistors can realize the conversion from low power to high power. Meet the transformation and application of dc, ac and so on current needs. These technologies provide the possibility for energy substitution, industry development and resource center transfer, and play an irreplaceable role in the future energy industry.
2. Energy consumption is essential
In the process of social development in China, energy consumption is essential, and with the progress of society, the demand for energy is increasing. Because most of the energy in our country is non-renewable, the development and application of new energy materials is imperative. At present, China's electronic technology has developed rapidly and has been widely used in many fields[3]. Electronic technology is an important support for the research and application of new energy materials. It can provide technical support for the development of new energy. At the same time, it can also make new energy have good energy saving effect in the process of application. With electronic technology as the basis, the development momentum of new energy materials is very good, and it also effectively solves the problem of energy shortage in our country. At the same time, it opens up a new road for the development of new energy industry in China, so that new energy materials can provide good help for the development of our country in the future[4].

3. Experimental content of open integrated laboratory of modern electronic technology
From the results of the survey, there are great differences in learning quality, learning ability and learning background among students from different majors, grades and even the same class. Therefore, the basic knowledge of experiments should be combined with new knowledge in the course of experimental teaching and some difficult experimental items should be provided to teach students electronic information technology. In this way, we can transfer knowledge to students from shallow to deep, so that the study of students' experimental courses is more systematic. In the process of experiment, the experimental items with different learning levels can make students have a sense of achievement and further improve their interest in learning. For example, an important experiment in electronic information experiment is FPGA application experiment, which provides general topics such as traffic light control design and intelligent transponder design. These experiments should not only have the basic experiment part but also the extended training part. Teachers can use a variety of experimental schemes according to the students' learning ability and knowledge to complete the expansion from the basic to the extended experiment part. We can also innovate the design direction of experiments and learn more knowledge in innovation. Taking the circuit design of multi-function digital clock as an example, the design requirement of this experiment is to design the following five circuits: crystal oscillator circuit, frequency divider circuit, time counter circuit, decoding drive circuit, and punctuation circuit. A digital clock is actually a counting circuit that counts the standard frequency (1 HZ. Because the starting time of counting can not be consistent with the standard time (such as Beijing time), it is necessary to add a timing circuit to the circuit, and the standard time signal of 1 HZ must be accurate and stable. Quartz crystal oscillator circuits are usually used to form digital clocks. Some students have a poor foundation in study. The experimental design of these five
circuits cannot be completed simultaneously. The teacher can arrange it together in the experiment to complete the design of one or two experimental circuits for each student; for the students with excellent learning foundation, they can complete the design of several experimental circuits or complete the experiment alone[5].

Figure 2. New energy vehicles.

4. Examination method of open integrated laboratory of modern electronic technology

The main characteristic of open laboratory teaching mode is to break through the limitation of traditional laboratory education mode and better mobilize students' subjective initiative in learning. Adjust the direction of students' experimental study, the assessment of students' experimental results is particularly important. Through the examination of students' achievements, the school can understand the students' knowledge more timely, and adjust the teaching plan in time. Therefore, the examination is an important link in the open comprehensive laboratory teaching of modern electronic technology[6]. Because the electronic experiment is mostly comprehensive design experiment, the laboratory management is relatively loose. Therefore, it is unrealistic to pass a simple examination to check the students' experimental class results. This paper proposes to select a comprehensive assessment method which combines the experimental process with the final examination, which is divided into four links. First of all, because students have different experimental design directions, the experiment is divided into different difficulty levels. Secondly, after completing the experimental design, the students should show the students' specific experimental results through the display of the experimental results. In this process, the teacher examines the students' mastery of relevant experimental knowledge and gives the corresponding scores according to the students' excellent degree of answering questions and the excellent degree of the work. Moreover, students will have corresponding experimental reports after the completion of the experiment. The experimental design comprehensively reflects the whole process of the students' experiment and the experimental report reflects the students' ability of writing. the experimental design to a certain extent and the excellent degree of the students' experiment can be assessed by the experimental design report. Finally, the students' mastery of experimental knowledge can be assessed by specific electronic circuit design. The specific test process is from the direction of the students' experimental design, set out some problems related to the design direction of the electronic circuit.
5. Examples
In the new energy vehicle with "electricity" as the key, electronic technology certainly has the innate superiority. In fact, electric vehicles and hybrid vehicles were invented a long time ago. As early as 1900, Ferdinand Porsche had developed electric vehicles and hybrid vehicles, but there was basically no new breakthrough in the next century. The main reason is the bottleneck of battery technology and electronic control technology. But since the 21st century, this situation has been greatly improved, because of the rapid development of electronic technology. The performance of batteries and electronic control devices has become stronger and stronger, thus making electric vehicles get new life. First, battery technology, new materials and new processes make the energy density of power batteries higher and higher, making pure electric drive possible. But what follows is the control management of the battery, such as the heating and aging of the cells will affect the performance of the whole battery pack, which depends on electronic technology to monitor each cell. Let the controller know the working condition of the unit in time, so as to control the output of the battery and heat dissipation system. Secondly, the control technology of power system, the power of new energy vehicle comes from motor, these motors are usually high-power three-phase AC motors. In order to achieve the purpose of energy recovery, high-efficiency controllers are needed to control the flow and conversion of electric energy. In hybrid vehicles, complex engines and hybrid devices are controlled, which depend on high-power electronic devices, fast-computing control units and high-performance sensors. It can be said that without the application of electronic technology. There can be no development of new energy vehicles. The electric drive system is the heart of the new energy vehicle, which is divided into two parts: motor and its control part, battery and power management device.

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