

Sample of English Rewrite

Topic: Engineering and education

Exceptional students have relatively low performance in concentration, emotional management and interpersonal relations than the average person, so they are usually categorized as students with learning disability. They tend to and become neglected disadvantaged minorities. However, these students may have the capability for outstanding achievement in some specific area, and this is exactly the cases of many famous inventors and scientists. For example, Thomas Edison and Albert Einstein were also identified by their teachers as having learning disabilities at their school age, but they had made significant intellectual and practical contributions to the world, as everyone knows. The purpose of the present study Edison Robot Camp was is to provide these special needs children with an alternative learning environment by the widely used through use of projects requiring them to design, construct and test robots. It was also the intention of the Edison Camp that it be used as a means to develop instructional programs, materials and procedures which were specifically tailored to the special learning needs of exceptional children. "robot hands on" courses, and further refine the course to meet various situations which these students may encounter during the class.

In-From July to August of 2009 to August, the "Edison Rrobot Ceamp" was held for about 1825 students. PWith psychological counselors were used to conduct interviews and observations.; The authors claimed that hands-on robotics programs were is confirmed to have positive support effects for the exceptional students in aspects like such as learning behavior, concentration and social interaction, etc. Moreover, the official website of "Edison Rrobot Ceamp" were was established for higher to extend the availability of learning resources and programs. —availability, pPeople with an interest in this area who are interested with can easily download teaching materials and; photographs from the website (http://edison-camp.caece.net).

Keywords: exceptional education, inclusive education, learning through playing, hands-on, robot

I. Background

Thomas Edison is well known forby being one of the most famous inventors in modern times. However, a number of several biographies haved indicated that he had a learning disability and attention deficit hyperactivity symptoms, such as misspelling and difficulties into reading sentences. HSince he was curious about many things and will-would conduct

extraordinarily orginal make a striking experiments in alarmingly reckless ways. manner, fFor example, to help the hens incubates the eggs, he burned the barn., these iIncidents such as this one led him to be rejected by the school system at the time. Fortunately, Edison's mother had a clear understanding of the ways that he likeds to inquire, experiment and learn, operate and she provided him with an appropriate learning environment, through home schooling. By conducting various experiments in the corner of the basement, Edison gradually developestablished his scientific skills and established the basis for histhe future success.

There is a group of hidden "Edisons" in today's education system. They are exceptional students with recessive a variety of disorders, which meanbut in spite of their challenges, their physical, sensory and intellectual performance may behave as within the range of normal or even outstanding., This may make themThey may feel frustrated in school because of their learning disabilities, autism or ADHD symptoms. Most of them are weak in language learning, communication ability and interpersonal reaction interaction. On the other hand, some of them may demonstrate outstanding ability inof, for example, mathematical reasoning or spatial manipulation. Several studies have indicated that among out of every of ten 10 autism patients, there may be one person who has Savant syndrome occurs, with and possesses extraordinary abilities (Treffert & Wallace, June 2002). During the Edison Robot summer Ceamp held by the present study in July and August, 2009, it was found thaten several students with attention deficit hyperactivity disorder in often encountered conflict with their peers in class. elass that, although they may easily conflict with their peers, hHowever, they also reveal manifested a high degree of being interested in the curriculum, good responsiveness to instruction and sound able ability to concentrate on operations and so that they could finally complete an excellent piece of work which related well to the intended learning outcomess (Lin, 1999). The Edison Camp was conceived with the intention of providing an instructional environment which would Therefore, the authors began to think about how to help them exceptional students develop their superior ability and provide them with successful experiences which would enhance their chances for success in their early years of learning age.

Technological applications are proliferating at an exponential rate in the modern world, and the development of effective processes for learning about technology deserves serious attention and inquiry. On the other hand, learning of technology should be paid more attention while technological applications are more wild spread than ever. In the traditional education environment, people educators typically focusemphasize heavily much more on theoretical learning and on developing the ability to perform standard —framing operational procedures. They typically focus far —and have less on developing sound engineering thinking and innovative ways to promote learning. And in an effort to make science popular and accessible, science educators often present demonstrations which are intended to engender a sense of fun

in the students, rather than to make a serious scientific point or to promote sound scientific inquiry. most science popular demonstrations focus on the sake of fun, sSo the presentstudy Edison Robot Camp was designed —with the intention to add some balance to this situation. would like to solve the above situations. One of the important instructional tools used at the camp was Mindstorms NXT robot modules, a product of the Therefore, The use of LegoEGO company. introduced Mindstroms NXT. The robot modules are were used with the intention that the for children to foster might use their creativity, have an opportunity to assemble a variety of components by themselves and develop a first-hand understanding of the function of motors and sensors. Children were given the task of Finally they can building up their own robots and controlling them by using the Visual Programming Language of Microsoft Robotics Developer Studio platform. By engaging in these activities, cchildren had the opportunity to can learn basic simple programming logic and skills to control hardware (Okolo & Ferretti, 1998). By competing against each other with their robots in class, children were given the opportunity towill modify their robots repeatedly to win the racemake them more competitive. Through the process of modification and improvement of their robots, the children had the opportunity to and hence improve their knowledge of how to problem solve and how to think as an engineer learning performance (Matarić, 2004; Murphy, 2001).

The target group of the present study for the Edison Robot Camp included normal students and exceptional students (Wang, 2005). Among the exceptional group, there were, which includes tudents with high-functioning autism, attention deficit hyperactivity disorder and learning disabilities (Hung, 2003). The forum for the learning experiences was their Edison Rrobotie Ceamp, which was held in July to August, 2009, in connection withat the science class of Agape Community Center, Wenshan District in Taipei City.

The primary goal of the present study camp wais to formulate an effective, provide a normal, non-separated education environment for exceptional students. For this reason One of the steps taken to achieve this goal was to invite, several special education practitioners were invited to propose a range of appropriate and effective learning environments for special needs children. Out of these discussions came the decision discuss the solution and decided to hold athis robotic camp within the context of an inclusive education methodology. It was postulated that this approach would both enhance the chances for special needs cehildren to utilize their special learning talents acould benefit from this kind of inclusive education methodology and to establish new social relationships. The authors camp designers expected that the children would extend ean increase their interests in with learning science and through working with the technology of robots. It was also expected that the children would improve their, scientific understanding and their thinking ability.