

Intelligence and Education.

This article explores the concept of intelligence, what it is, how it is determined and its role in education.

Today there is much controversy about intelligence.

Intelligence, by definition is the ability to learn and deal with new and trying situations. Learning, by definition is the modification of behavior. When an organism's behavior changes because of new data acquired, learning has taken place. Learning and intelligence are inexorably connected. It is like the chicken and egg question, which comes first.

Psychologists describe intelligence as the ability to learn.

Therefore it is a waste of time and energy to consider one without the other. Intelligence may exist but without learning its existence will never be known.

Man has tried to measure intelligence for decades. Binet, the great French psychologist, developed the first recognized formal instrument to measure intelligence. This became the now famous I.Q. test. Many others since Binet have worked on this problem. A plethora of tests to measure intelligence have been developed since Binet's first test. Unfortunately the concept of intelligence has been narrowed by most investigators to academic learning despite the work of Gardner

and others who have shown that there are many types of intelligence.

Would an individual who can hear a tune and then reproduce the tune with a musical instrument be intelligent? Some would say he has talent, but would question whether the individual is intelligent. It all depends how one is defining intelligence. If we use the definition that intelligence is the ability to learn and to apply new data, then one would have to say in the field of music the individual is intelligent. He has to be able to assimilate new data, the new tune, and he is able to apply this new data by reproducing the tune with a musical instrument. In this respect he is probably far more intelligent in the field of music than most. How many persons do you know that can hear a tune and then sit down and play it? I doubt if you know many persons who have that ability.

The problem with the concept of intelligence is that we try to make it global when it is many discrete units. Dr. Howard Gardner, Harvard University, in 1983 developed the theory of multiple intelligences. He isolated seven different types of intelligence. There is no universal agreement on intelligence except that individuals vary in ability. One might be very intelligent in one or more fields and be almost a moron in many others. We could say that a really intelligent person has the ability to master any field. Undoubtedly this is true for a few gifted individuals,

but for the general population it isn't. Another problem with most instruments used in measuring intelligence is the use of the time factor. While time might be important in specific situations it is questionable whether it should be used to define intelligence. Two individuals are given a novel situation where they have to learn new data to solve the problem. One individual solves the problem in five minutes and the other one takes ten minutes to solve the problem. Does that mean that the individual who solves the problem in five minutes is twice as smart as the one who took ten minutes? Could one say which of the two is more intelligent? It appears to me that all one can say is that one can do it faster than the other.

Psychologists have developed a power test to eliminate the time factor. With such a test one can more accurately measure the individual's performance level on specified tasks and skills. If the tests are well designed one can predict fairly accurately an individual's performance in future situations involving similar conditions. Does this tell us whether the individual is intelligent? Yes, it tells us his intelligence in a particular situation. We now have a good idea how the individual might perform in similar situations if things remain constant.

However, in life few if any things ever remain constant.

Change seems to be universal, so one has to accept what is true today might or might not be true tomorrow. Thus the danger of attempting to quantify intelligence with some specific

number is that we forget the many limiting factors involved in our classification.

Another area of controversy about intelligence relates to race. First most studies that I have examined indicate that there is little genetic evidence to identify racial groups. Since it seems impossible to biologically identify persons belonging to a particular race and then to say one racial group is more intelligent than another does not appear to be a valid conclusion. In fact most studies of intelligence indicate when supposedly racial groups are compared there is little difference. Most of the individuals, regardless of racial classification, will be within one standard error of the mean which means there is little or no difference. Probably any difference is a result of environment or culture. Educator's task is to educate the individual regardless of intelligence.

Intelligence tests are valuable tools if they are understood and used properly. A better name for the tests would be performance test as that is what they actually are. The present intelligence test, normally used in schools, has almost a perfect correlation with the academic achievement tests used. The term intelligence as a generic term for total performance is misleading and should not be used. If one wishes to use it in relation to a specific skill or ability then it should be so stated.

This would help eliminate the misconception that you are measuring the total intelligence of an individual.

The concept of intelligence as presently used has little place in public schools except in research studies. Intelligence tests may be useful along with other variables in helping researchers match groups. Performance tests used to measure specific tasks, skills and knowledge are important tools, to aid educator and students in setting goal and plans of action. Let's accept the fact that people are different and have different abilities, but that doesn't make them intelligent; it means only that everyone has many facets of ability.

Achievement tests, standardized or custom designed, if properly used, are a valuable tool for the teacher. They indicate the functioning level of the student in the specified content and skill development areas, thus enabling the teacher to use appropriate teaching strategy and materials.