

Introverts and Extraverts Require Different Learning Environments

A learning environment stimulating enough for extraverted students may be too stimulating for introverted students (and for the teacher).

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One issue routinely faced by school administrators is the degree to which a school system should adapt to the needs of individual students and the degree to which the student should be forced to adapt to the needs of the system, which is designed for the "average" student. Some aspects of students' learning styles are modifiable (Schmeck 1981). Thus, teachers can bend a little to meet the needs of a particular student's style while simultaneously trying to shape that style into one they believe to be more efficient. However, if the individual difference is *not* modifiable, then we have a special problem. If we try to change students in ways they cannot change, then we do them a great disservice. One such individual difference may be the introversion-extraversion personality dimension.

Introversion-extraversion has been identified as a reliable dimension of personality by at least two of the most famous researchers in the field of personality psychology: Raymond Cattell and Hans Eysenck. Both of these researchers use sophisticated statistical methods to define personality and both have created personality tests that they

believe measure personality constructs similar to introversion-extraversion. Eysenck's test is called the Eysenck Personality Questionnaire; Cattell's is called the Sixteen Personality Factor Questionnaire (or 16 PF).¹

At present, the most commonly accepted theory for explaining individual differences on the dimension of introversion-extraversion is provided by Eysenck (Blass, 1977; Eysenck and Claridge, 1962; Prentsky, 1979). Eysenck's theory places great emphasis on the assumption that there are *inherited* differences between people in the ways their nervous systems function. Introverts are assumed to have such weak neural inhibition that stimulation of the senses easily prompts activity in the brain, while extraverts have strong neural inhibition, which makes it more difficult for sensory stimulation to activate the brain.

In other words, because it takes very little stimulation for introverts to perceive a stimulus, their brains become easily overstimulated. Thus, they tend to seek out an environmental where there is relatively little stimulation. Extraverts, on the other hand, require strong stimulation to perceive a stimulus

and tend to seek out environments that provide relatively large amounts of stimulation. Research with identical twins (Shields, 1976) has supported Eysenck's assumption that a person's position on the introversion-extraversion continuum is determined by heredity and thus not very subject to change.

Introverts are more influenced by punishments than by rewards, and they are more sensitive than extraverts to social prohibitions. All of this tends to make the introvert more restrained and inhibited. Furthermore, introverts are more sensitive than extraverts to pain, more prone to fatigue, and their performance suffers more when they are excited. This should not be taken to

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indicate that introverts earn lower grades than extraverts in school; research indicates just the opposite.

It seems likely that many classrooms reward the student who works quietly and alone (Biehler, 1978). This is probably due to the fact that most teachers are more introverted than most of their students. Research has shown that people tend to become more introverted as they grow older. Since teachers are always older than their students, they will also tend, in general, to be more introverted.

Implications for Teachers

The implications of Eysenck's theory for the teacher are that extraverted children will learn better and understand the material better when learning occurs in an environment that is very stimulating (perhaps more stimulating than an introverted teacher can stand). Introverted children, on the other hand, may learn best in an environment that is quiet and free from intense stimulation. For example, although introverted children do not dislike people, they are over-stimulated by too much contact with others and thus prefer to study alone. Extraverts, by the same token, do not necessarily have an excessive need to be with people, but they do tend to seek out the extra stimulation that they can get by studying with others. Such stimulation helps them to concentrate.

The extraverted child should profit from multimedia presentations with sound, bright colors, and frequent changes in topics. The introverted students would profit from repeated emphasis on the main topic of the presentation with as little unnecessary distraction as possible. Since extraverted students do not like to sit quietly, they may pursue stimulating activities that disrupt the classroom (and could even be mistakenly labeled hyperactive). These activities send messages to their brains which would be otherwise under-stimulated. The introverted students, by way of contrast, may seem like the ideal students, sitting quietly, and causing very little "trouble."

Frank Farley (1981) suggests that open-space classrooms, open discussion, discovery, and inductive modes of instruction are ideally suited for students who need extra stimulation. By the same token, those students who need

less stimulation are best served by highly structured learning environments, lectures, expository and deductive modes of instruction. In one experiment, Farley showed that students who need a lot of stimulation learned faster if they were first shown an example of a problem and then told the rule (inductive approach). Those who needed less stimulation learned faster when they were given the rule first and then shown an example (deductive approach).

Appreciating Differences

If you find yourself wanting to say that either the introverted or extraverted behavior pattern is "right" or "better," your own behavior probably fits that pattern. As is true of most personality characteristics, it is easiest for introverts to appreciate the style of other introverts and for extraverts to appreciate the style of extraverts.

There are some individual differences that teachers should not only tolerate but also put to their best advantage. For example, extraverted students should periodically be provided with an opportunity to discuss the material even if that is not the teacher's normal style. Likewise, introverted students might need periodically to be sheltered from others so they can find the peace they need in order to learn.

Perhaps the greatest danger lies in failing to provide a favorable environment for the extraverted student. We noted earlier that teachers will invariably tend to become more introverted than many of their students. Thus, they may become less tolerant toward extraverts. Also, we know that introverts already fare well in our current educational system. Thus, we might give a little extra thought to whether our classrooms provide opportunities for the kind of interactive, stimulating learning experiences that extraverted students seem to need.

It should be remembered that introversion-extraversion is a continuum and not a dichotomy. One cannot simply divide the class in half and put the introverts into a quiet setting and the extraverts into a more stimulating setting. Most students are neither totally introverted nor totally extraverted. They require both quiet and stimulating learning environments. The challenge thus is one of: (1) providing the majority of students with an environment that

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may sometimes be too stimulating for the teacher; (2) providing a little extra stimulation for extraverted children; and (3) keeping all this stimulation from interfering with the learning of extremely introverted children. Creative solutions are needed to provide students with a proper level of stimulation while not overstimulating either the teacher or introverted students. □

¹The Eysenck Personality Questionnaire is available from Educational and Industrial Testing Service, P.O. Box 7234, San Diego, CA 92107; and the Cattell Sixteen Personality Factor Questionnaire is available from Institute for Personality and Ability Testing, 1602 Coronado Dr., Champaign, IL 61820.

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