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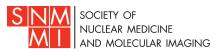
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Using Personality Type to Improve Clinical Education Effectiveness*

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Many nuclear medicine technologists become clinical educators by chance, with little introduction to teaching methodologies and student learning styles. This means that most technologists teach students in the clinic by modeling the way in which they were taught in nuclear medicine school, a method that may not be effective for every student encountered. The purpose of this article is to examine how personality type can be used to improve clinical education effectiveness.

Key Words: clinical education; personality type; teaching strategies; learning preferences

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Many nuclear medicine technologists mentor and teach nuclear medicine technology students daily in the clinical setting. The responsibility of educating future technologists is significant, and the challenges of clinical teaching are numerous. The breadth of skills required spans from effective communication to juggling the simultaneous delivery of quality teaching and patient care (*1*). The amount of formal preparation for this responsibility ranges from minimal assistance to elaborate, multiday clinical teaching seminars conducted by instructors from the program placing students at the facility. Regardless of the level of formal preparation, most clinical instructors instinctively teach in the same manner in which they were taught (*2*). What technologists fail to realize is that what worked for them several years ago may not be effective in teaching today's generation of nuclear medicine technology students. Also, a teaching strategy that is effective for one student may not produce the same results when used with another student because of differences in personality that affect learning preferences.

To effectively educate students in the clinical setting, nuclear medicine technologists should have an understanding of personality type and its relationship to student learning style.

Behaviorist, cognitive, and constructivist learning theories were developed in the 20th century to explain how people learn. Each has a different focus and specific learning situations in which one theory may be more applicable than another. In general, behaviorists believe that learning is demonstrated by how behaviors change, cognitive theorists focus on how information comes together in a learner's mind, and constructivists view learning as a social process in which students gain knowledge through interaction with other students (*2*). All 3 theories have relevance to clinical education because it involves the development of specific knowledge, attitudes, behaviors, and hands-on skills. Although these theories do not specifically address personality type, it is intuitive that personality will affect how people learn and the type of learning environment in which they excel.

The literature on clinical instruction repeatedly highlights similar criteria for an effective clinical learning environment. Hewson summed them up as creating an appropriate learning climate, being learner centered, facilitating learning and integration of knowledge, encouraging learner self-awareness through reflection, and tailoring teaching to learners' needs (*3*). To establish an educational rapport with students that meets these criteria, a clinical educator must be observant of student personality and aware of his or her own personality preferences.

There are several different theories and tools available to assess personality type or temperament. The Keirsey-Bates Personality Inventory and the Myers-Briggs Type Indicator are well-known personality assessment tools. The Myers-Briggs tool, based on Jungian psychology, has been used for over 50 y across many cultures, demonstrating a high level of validity and reliability (*4*). Nuclear medicine technologists may be familiar with these tools because employers often assess employee personality type as part of organizational leadership, team building, and problem-solving exer-

cises. Some nuclear medicine technology programs use one of these assessment tools to gain insight into their students; these programs may share such information with clinical instructors to improve clinical education. Regardless of one's formal experience with personality type, a little reading and good observation skills can assist a clinical instructor in assessing the personality types of students that he or she teaches and in adjusting teaching styles to achieve the best results.

Personality or temperament assessment tools sort people on the basis of 1 of 2 preferences in 4 different domains. Domains and the preferences associated with them are shown in Table 1. A preference may not reflect the way in which people act or think at all times, but it reflects the mode in which they operate most comfortably and the mode to which they turn when under stress. The clinical education environment is stressful, particularly for students at the start of a new rotation. Certain personality traits observed by instructors early in a clinical rotation may appear to change as a student gains a greater level of comfort and expands beyond his or her innate preference. It is critical to note that there are no right or wrong preferences even though technologists may find teaching students with preferences similar to their own easier or more enjoyable. It is the variation in preferences that allows different types of people, each with their own unique talents and perspectives, to make contributions to the clinical setting (4).

FOCUS OF ENERGY

The first assessment domain reflects how a person focuses his or her attention and energy, with the preferences being extroversion and introversion. These preferences are contrasted by the student who raises questions as he proceeds through skills at the clinic and talks himself through what he has just learned versus the student who takes copious notes, listens attentively, participates, and returns the next day with in-depth questions. The former student displays the extroversion preference of processing information spontaneously by interacting with others, whereas the latter student demonstrates the introversion preference of gathering information, processing it internally, and then formulating questions to ask. An extroverted student is comfortable with a clinical instructor who challenges him or her to think out loud and explain what he or she has just learned, whereas this type of teaching would be ineffective with an introverted student, who needs time to organize new information before answering questions.

Clinical Teaching Scenario

Rob is a nuclear medicine student who has been at the facility for 1 wk. The clinical instructor notes that he seems uncomfortable demonstrating skills or answering questions posed to him about a patient procedure just completed, but he routinely arrives the next day anxious to demonstrate those same skills. He frequently also has a list of questions for the instructor to answer about the things that he learned yesterday. Does Rob display a preference for introversion or extroversion? How can the instructor effectively quiz him about new tasks that he has learned?

Discussion

On the basis of the description of Rob's personality, his preference is toward introversion because he needs time to organize and reflect on new information and skills before he is comfortable discussing or demonstrating them. Rob would excel in an educational environment in which he participates in question and answer sessions with a technologist each morning about the previous day's information rather than same-day quizzing. Technologists encountering an introverted student such as Rob should not assume that the student is failing to learn just because he is not asking questions immediately after learning something new. Given adequate reflection time early in a rotation, students with introversion preferences will acclimate quickly, learn more effectively, and begin to require less reflection time.

ORGANIZATION OF FACTS

The second preference domain explains how a person organizes new information. Some people are comfortable with discrete facts presented in a logical progression, whereas others must see the "big picture" before they can assimilate the details. The former preference is known as sensing, and the latter is known as intuitive. A student with sensing preferences needs an instructor who is organized

TABLE 1
Major Personality Domains, Preferences, and Descriptive Characteristics of Each Preference

Domain	Preference*	Personality characteristics
Focus of energy	Extroversion	Attuned to external environment; learns best by discussing
	Introversion	Attuned to internal thoughts; learns by reflecting on material
Organization of facts	Sensing	Observes reality; learns sequentially in stepwise manner
	Intuitive	Sees abstractly; learns by focusing on "big picture"
Method of decision making	Thinking	Analytical problem solver; reasonable
	Feeling	Sympathetic to individuals; compassionate
Response to circumstances	Judging	Scheduled; orderly; likes closure
	Perceiving	Spontaneous; flexible; readily open to change

*Myers-Briggs Type Indicator preferences (4).

and clinical instruction that keeps the student focused on one activity to its completion before moving to another. A very hectic day in the clinic can frustrate this student and reduce the amount of knowledge gained. The sensing student can acclimate to a busy setting over time but may find it difficult early in the learning process, whereas the intuitive student seems to be comfortable working on multiple tasks simultaneously as long as the final goal is known. The intuitive student frequently is future oriented and may ask many "what if" questions, such as what the next step in a patient's hospital course will be now that the nuclear medicine results are known.

Clinical Teaching Scenario

On the first day of rotation at the clinic, the clinical instructor cannot keep Samantha on task. She seems to be floating from room to room and activity to activity without focus. The instructor worries that she is learning bits and pieces about a lot of procedures rather than in-depth details about a single procedure. Because this is the first day of her clinical rotation, should the instructor request that Samantha stay in one area, or can her personality preference explain her behavior?

Discussion

On the basis of the description provided, Samantha seems to be a person who must see the full spectrum of a clinical site at the outset of a rotation. When given 1 or 2 d to observe overall department operations, such a student with intuitive preferences should be able to begin focusing on specific tasks to their conclusion. If the focus is not demonstrated, then the instructor must advise the student about the behavior that requires modification. Stifling a "big picture" student such as Samantha too soon may leave her frustrated because she will be unable to see how her actions contribute to the overall productivity of the department.

METHOD OF DECISION MAKING

People use reason or compassion when making decisions. The person who relies on reason and facts displays a preference for thinking, whereas the person who makes decisions based on compassion and group harmony demonstrates a preference for feeling. It is not surprising to note that a large percentage of nonphysician health care providers demonstrate a preference for feeling because a strong sense of compassion typically directs people to health care careers. This preference is also tied to sex in that two thirds of all females, who comprise the majority of the nonphysician health care workforce, demonstrate a preference for feeling (5). Students with a preference for feeling learn more from a gentle but direct reprimand than a loud admonition when a mistake occurs. Students with a preference for thinking can accept a poor performance evaluation when their errors and deficiencies are clearly and honestly identified.

Clinical Teaching Scenario

Debbie graduates from nuclear medicine school in 1 mo. Her clinical instructor's perception is that she focuses on talking to and sympathizing with patients and their families to the detriment of her technical skill development. She routinely displays difficulty keeping up with the pace required in a busy clinic. Does Debbie display a preference for thinking or feeling? How can the instructor effectively approach her about concerns regarding her technical abilities?

Discussion

Debbie obviously displays a preference for feeling because she places greater focus on the people she encounters rather than the technical skills she must learn. Although her preference will always be for people, the clinical instructor must point out to Debbie that she is emphasizing this characteristic at the expense of her overall development as a nuclear medicine technologist. Sometimes a student must be made aware of such a situation at frequent intervals until she develops better control over the preferred behavior.

RESPONSE TO CIRCUMSTANCES

When managing the daily circumstances of life, people may respond in a scheduled, organized manner or in a flexible, spontaneous manner. The former preference is called judging, and the latter is called perceiving. A student with a judging preference thrives in an organized clinical experience that adheres to clearly stated learning objectives. A student with a perceiving preference learns with structured objectives but is more spontaneous about deviating from the objectives when a unique learning opportunity, such as a rarely performed procedure, arises. The judging student may study the patient schedule for the day and then become frustrated as additional procedures are added because the original schedule has not been followed. In the same situation, the perceiving student seems to be more adaptable.

Clinical Teaching Scenario

A technologist approaches the clinical supervisor to discuss Mark, a student completing his second month of rotation at the facility. The technologist states that Mark is frustrating him because he is slow, must write everything down, and cannot do anything without referring to the protocol manual. Is Mark's preference for perceiving or judging? How can the supervisor assist Mark and the technologist in improving the situation?

Discussion

Mark prefers judging when responding to his environment. He will always prefer careful, deliberate actions approved by an authority but, if given time to acclimate and gain comfort in the clinical setting, his speed will increase and his reliance on protocols and technologist approval will decrease. Because Mark has been on rotation for 2 mo and

is still displaying this behavior, the supervisor should reflect on the personality type of the technologist working with Mark. Does he display the opposite preference, which may explain his frustration level? If so, the supervisor should meet with the student and the technologist to discuss their opposite preferences and how to teach and learn effectively in such a situation. The student also must be told that the technologist will begin challenging his reliance on notes and protocols to help wean him from the habit.

CONCLUSION

It is important to reiterate that one preference is not better than another in any of the domains. Care should be taken to avoid placing people in rigid categories because adaptation facilitates effective interaction outside a preference area when the situation demands it. Personality type affects learning preferences, which is why a basic knowledge of type can be helpful to a nuclear medicine technologist acting as a clinical instructor. When this knowledge is put into practice on a daily basis, instructors communicate more effectively with students and deliver clinical education and evaluation in a manner that maximizes the clinical learning experience for each student.

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