As virtual education eradicates geographic boundaries, the individual needs of students remain complex and require more attention. Students can now have access to almost any part of the institution without leaving the shores. This calls for innovative ways of teaching and learning. It is a colossal challenge for the institutions and international educators to provide and cater for the individual needs. The international student in a virtual environment is like any other student that we see in a traditional international classroom. However, to “see” the personality dimensions that are so universal which encompass the learning process is even more intricate in a virtual setting. This paper seeks to examine the individual learners’ personality dimensions, learning styles that an online educator must be aware of in a virtual environment. The paper also examines ways, and approaches by which educators can meet these diverse individual requirements of students in an electronic era.

**Keywords:** Virtual education, anxiety, motivation, attitude and learning styles.

It becomes important to study individual differences because learner demands have to be met and sustained, and quality education must be given to those who seek it. With the explosive expansion of the internet, geographical boundaries have been eradicated. Students can now have access to international universities without leaving the shores. In these circumstances, one must be aware of individual characteristics which paly a crucial role in learning. Incompatibilities between individuals’ characteristics and learning technologies may produce lower levels of learning. Today’s technologies offer much potential to incorporate information about individual personalities in learning. Some data on the question of individual differences when using technologies are available (Ayerson, 1995). However, findings are limited. Further systematic research is needed in this area to have a better understanding of personality dimensions in a virtual classroom and how these demands can be met.

Personality has its origins from Latin, which means “mask”. It is a term which like “intelligence” has a place in common language as well as scientific study. Mischel
(1976) defines personality as distinctive patterns of behaviour that characterize each individual’s adaptation to the situations of his or her life. Personality constitutes individual differences at the most global level. Because of the vastness of literature on personality dimensions and learning, not all aspects will be covered in this paper.

The first construct of personality that will be presented is anxiety. Scovel (1978) defined anxiety as “a state of apprehension or fear…..” McIntyre and Gardner (1991) suggest that anxiety can be experienced at various levels. It can be characterized as a “trait” anxiety at the global level, indicating that it is more of a permanent predisposition. An example of this would be when people are of an anxious nature. State anxiety refers to a more transient emotional mood or condition. Another distinction in anxiety was made by Alpert and Haber (1960) between debilitative anxiety and facilitative anxiety. Facilitative anxiety helps a learner to be more alert to a task and this is considered as positive factor in order to accomplish a task. Debilitative anxiety, on the contrary is negative, where a learner becomes too anxious and may not perform a task to the optimum level. A study conducted by O’ Neil, Spielberger & Hansen (1969) indicated that students with high anxiety tended to make more errors when using the computer than students with low anxiety. Also, Jonassen & Grabowski (1993) suggested that students low anxiety students preferred changes in routine, self regulated tasks and preferred visually based materials. High level anxiety students, according to Jonassen & Grabowski (1993) required a structured routine externally imposed goals.

Another construct that has major effects on learning is motivation. Many psychologists define motivation in different ways. Some describe it in terms of certain
needs or drives. Ausubel (1969) suggested six needs that underlie the construct of motivation namely, the need for exploration, the need for manipulation, the need for activity, the need for stimulation, the need for knowledge and finally, the need for ego enhancement. In addition, Maslow (1970) proposed a hierarchy of human needs which ranged from fundamental physical needs to higher needs like security, identity and self-esteem. Also, Deci (1975) distinguished between intrinsic and extrinsic motivation, where in intrinsic motivation there is no reward but the activity itself. On the contrary, extrinsic motivation is when a reward is offered after the completion of a task. Wolters (1998) has suggested that self-regulated learners make an effort and show persistence in fulfilling academic tasks. In (1995) Schunk suggested that teachers can assist students by becoming more self-regulated by implementing the importance of goal setting. Therefore, motivation can be global, situational or task-oriented. Behind the computer, the student may be motivated to learn or may more require more motivation to complete a task. Consequently, one needs to be more aware of how a student in a virtual class is motivated or needs to be motivated more.

Another important construct of personality is attitude. According to King, Morgan and Robinson (1979) an attitude is a learned predisposition to behave in a consistent evaluative manner toward a person, a group of people, an object or groups of objects. Here the attitude towards learning in a virtual environment will be considered. In a study conducted by Munger & Loyd (1989) showed that students with a more positive attitude toward computers performed better than students with negative attitudes. Also, another study conducted by Anderson & Hornby (1996) suggests that students’ attitudes to computer improved with more exposure to the computer.
In addition to the affective factors mentioned above, different learning styles will also be analysed. Reid (1987) defines learning styles as “an individual’s natural, habitual and preferred ways of absorbing, processing and retaining new information and skills”. Learning styles are generally discussed in four domains—cognitive, affective, perceptual and physiological. Cognitive dimension includes field independent/dependent, analytical/global and impulsive/reflective (Ehrman & Oxford 1990). In addition to above mentioned personality factors, affective dimensions also include conceptual level and locus of control. Conceptual level refers to the degree of structure that a person needs to learn effectively. Locus of control describes whether “an individual’s perceptions of causality may be internal or external” (Keefe, 1987). Perceptual dimensions include one or a combination of these ways—auditory, visual and kinesthetic (Gardner 1983). Physiological dimensions refer to learning preferences based on biological differences, such as gender and reaction to physical environment. A range of learning styles preferred by the students makes it quite difficult for the educator to cater for. It becomes even more difficult in a virtual setting. Further research is required in this field where a range of people in the education field can make informed choices.

To summarise, affective factors are critical to effective learning in a virtual environment. The personality factors of an individual may remain hidden behind the screen, which makes it difficult for the educators to “see” them. Learners may even respond differently in a virtual classroom. With many universities providing virtual education, it becomes necessary for everyone in the education sector to be aware of the individual personality factors, their interplay and their functions in e-learning. Further research is needed to make available clear guidelines in this area as it is the
business of every University to provide an excellent e-environment for international education.


