**Technology And Learning Styles**

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**Comm486-010**

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**December 7, 2015**

**ABSTRACT:**

The purpose of this paper is to discuss various learning styles, and the controversy and benefits of deciphering a personal dominant style. In the modern day classroom technology is becoming increasingly prevalent, but many question whether this is beneficial to students and their various learning styles, or whether it is more of a hindrance or distraction. This paper will examine the benefits and downsides to utilizing technology in order to reach a variety of learners, and the versatile tactics teachers must employ to ensure its effectiveness. **Table Of Contents**

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**Introduction To Learning Styles**

 The concept of learning styles became increasingly attractive throughout the 1970s and 1980s. However, there was some doubt surrounding the effectiveness of learning styles on the retention of information. One of the most prevalent models of learning styles is the VARK model, created by Neil Fleming, which categorizes learners’ preferences into four categories (para 1). Despite the distrust in the theory of learning styles, author Kendra Cherry states that most students do in fact find themselves drawn to a particular type (para 10). In some cases students may utilize more than one tactic, which is referred to as a multimodal style (para 12).

 The first letter of the pneumonic is “V” representing visual learners. These students learn best through seeing, rather than viewing text. These types of learners benefit from illustrations, charts, diagrams, and videos (para 5).

 The succeeding letter “A” represents aural learners, also known as auditory learners. Aural learners prefer lecture style classrooms, as they are great at remembering things they hear (para 6).

 The letter “R” symbolizes the third of the learning styles, or the reading and writing learners. They will succeed best with text, or when concepts are expressed as words (para 7).

 Lastly, the Kinesthetic or tactile learners benefit from hands on approaches. Students who do it, or touch it themselves, learn better in this style (para 8). Now that the VARK model has been addressed and explained, the next section of this paper will discuss the benefits one may acquire by determining their dominant learning style.

**Benefits To Determining Learning Styles**

 Learning styles are defined as, “common ways that people learn.” As stated previously, people may utilize more than one tactic however, are usually drawn to one approach over the others. Utilizing brain imaging, research has proven that different parts of the brain are activated in association with each learning style. The article explains that the more a student engages their brain, the more they will learn (Overview of Learning Styles).

It is important to recognize that there is much controversy surrounding the concept of learning styles. Some may argue that measurement of learning styles is questionable, and others feel that isolating or exploiting a dominant learning strategy acts as a disadvantage to students. However, author Kendra Cherry makes an interesting and crucial point. Even if one does not believe learning styles have a direct impact on learning, at the very least, it may increase memorization and make studying easier and more pleasurable (para 11).

It is up to the student to decipher whether a particular style suits them better than another, and it is also their decision whether or not to employ it. In the case that students find certain techniques help them learn better, increasing technology is making it easier than ever for teachers to address diverse styles in their lessons.

**Technology In The Classroom**

 Multimedia technology refers to the use of “multi” or many technologies in the classroom. According to author Euline Schmid, “multimedia environments include online instructional presentations, interactive lessons, e-courses, simulation games, virtual reality, and computer-supported in-class presentations,” (1553). There is some confusion on whether the integration of so many new technologies is seen as advantageous or as a distraction, and there are supportive facts for each perspective. The next sections of this paper will discuss the positives and negatives of multimedia technology, and how to effectively integrate it in the classroom so it can cater to all learning styles.

**Positives Of Technology**

 Perhaps one of the largest benefits of technology in the classroom is its convenience. With the click of a mouse the same information and concepts can be displayed in multiple ways. Whether it be an interactive website, a PowerPoint, a video, or audio file, teachers can seamlessly transition from one representation to the next. The article points out that with this convenience, paces of classes are much smoother because material can be prepared ahead of time, and pulled up in an instant (Schmid 1554).

 In a study of students who were taught using multiple technologies including websites and interactive whiteboards 63.2% of students strongly agreed that the integration of the whiteboard helped them comprehend the lesson better and 36.8% agreed (1560).

 When a student was asked why they felt the technology helped their learning, their response was that technology simply made it more interesting. The student refers to traditional tactics, such as paper handouts or teacher’s experience as boring. The student explains that since the presentation of the material is viewed as more complex and interesting, it motivates students to pay closer attention and be more engaged (1558).

 Modern day technology allows students to highlight and store information they wish to return to. Digital textbooks allow students to view and hear words at the same time, and lectures can also be recorded and viewed at another time. Lastly, interactive websites are able to give students hands on learning experiences they may never have had before (Hobgood). However, the complexity of technology also causes struggles for students, as well as the teachers that use it. Technology is still hard for many to understand, which creates challenges when operating it.

**Negatives Of Technology**

 Although technology makes it easier than ever to present information in multiple ways, easy access can lead to students slacking off. One teacher even said she felt like she, “spoon fed them through the overuse of these electronic resources,” and that it took away from time for questions, or for students to explain concepts to the class (Schmid 1563). Since the pace of classes can drastically be increased because of how readily available resources are, this can decrease participation and negatively affect students (1565).

 Another area of concern is referred to as cognitive overload. As a result of multiple representations, students may not understand some depictions, or be overwhelmed by the various methods. It is important to recognize that teachers must evaluate the quantity of representations presented, and that students must actively participate in lessons to maximize effectiveness and decrease cognitive overload (1556).

**The Link Between Technology and Learning Styles In The Classroom**

With the incorporation of technology in the classroom still relatively new, many teachers are still fixated on traditional classroom teaching strategies. These strategies include long lectures that rely heavily on the textbook, followed up by an exam that may be the only assessment of comprehension and retention. Although this is the norm for how a class is conducted, it gives students who prefer this learning style an advantage (Overview of Learning Styles para 3).

 In Rochester, Minnesota teacher of the month Christine Hong is 26 (para 2, para 3). Hong strives to cater to each student’s learning style, to make all her students comfortable in her classroom (para 4). In 2013, her high school, Pine Island High School, adopted a program that gave each student a Lenovo Notebook, which enabled them to use online demonstrations, games, and activities. Students handed in and stored their assignments online (para 7).

When regarding the use of technology in the classroom, Hong saw the new possibilities and opportunities, but also saw the potential for danger. “"There are a lot of areas to enhance learning,” she said. "Part of it can be a little distracting and so it's finding the balance between the enhancement of learning and it not being a tool of distraction. It's a matter of finding that sweet spot. Where does it really help the kids,” (Stolle para 10).

 It is the teacher’s duty to use technology in a responsible and educational manor in the classroom. Technology can aid in utilizing different representations of content to cater to all learning styles as well as finding different content to teach the same subject (para 3). For example, digital textbooks that include pictures and have the ability for text to be read aloud can cater to both visual and auditory learners (para 38). However virtual tutorials and class polls conducted using iclickers can be used to teach the same content to kinesthetic learners for a more hands on experience (para 21). Teachers can still lecture, or have students write or read the material to cater to reading and writing learners.

 With all the capabilities of technology it is evident that it will continue to make its way into classrooms all over the world (Kothaneth, Robinson, Amelink 60). It is vital that teachers implement this technology in an appropriate way.

“Because numerous studies have shown a positive correlation between student engagement, appropriate academic activities, and high achievement, differentiating by product often translates to improved student achievement. (Hobgood para 58).

**Conclusion**

Every individual develops preferences in life, including preferences in how they like to learn. Although preferences may overlap, usually one takes precedence. By recognizing one’s likings, individuals can utilize them to make learning easier and more enjoyable. Inside the classroom, technology can be useful in presenting content in various ways to appeal to diverse learners. With the capabilities of technology this differentiation is easier than ever, however must be carefully utilized to avoid confusion, laziness, and overwhelming feelings. As technology becomes more prevalent in the world, it is expected it will also become more prevalent in the educational system. It is up to the teacher to ensure technology is used wisely so the benefits of technology translate to the success of their students.

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