

**Literature review on the use of VAK learning strategies**

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**Abstract**

This literature review was undertaken to determine the use of VAK learning strategies within the classroom and how they have developed within education over the last forty years. Research was carried out and information was extracted from some of the more well-known figures in education theory as well as the inventors of learning style theories themselves. Since it is a literature review, both sides of the argument are presented with suggestions as to how and why learning styles are required to aid pupil progress or, as the case may be, not needed. Included alongside this research are my own findings and examples through personal experience and how they correlate to this investigation, as well as a reflection on what more could be done within the field to further improve research on a broader scale to incorporate all types of learner.

**Introduction**

VAK is an acronym for Visual, Auditory and Kinaesthetic learning styles which are different approaches and methods for an individuals' learning based on their preferences. Not everyone learns the same way, however, various theories have been presented and tested in the last forty years that classify everyone into certain categories depending on their preferred style of learning. Brown's definition of learning styles is the way in which individuals perceive and process information in learning situations (Brown, 2000), although this is just one of many definitions that have circulated over the years. These learning styles have greatly influenced education despite the concerns, criticism and controversy surrounding the theory which I myself came across during placement. Several teachers had more negative views on whether learning styles should be used to teach than what I had heard elsewhere in university and in educational sources through social media. This was one of the main reasons for choosing this topic to research, my aim being to broaden my understanding of the VAK learning styles as well as their development within education. This literature review will explore the creators and researchers of these learning styles and will be divided into two main themes: the adaptations and variations in learning styles and the impact on teaching and learning.

**Methodology**

From learning about VAK learning styles during sessions within university-based days, I already had an underlying knowledge of what they entailed, however, I needed to learn more to begin the enquiry. I began my research for literature on education websites I already knew of, such as the British Council and Rachel Hawke's website, to find relevant information I could use and from there moved onto a Google search for VAK learning styles, theories and evidence relating to the hypothesis. I was directed to many websites that carried some credible information regarding learning styles from various renowned authors within education as well as others who had included these views within their own literature. Through these websites and several journals, I managed to find research by key authors and creators of VAK from both the early stages of creation and more recently after years of investigation, reviewing and refining.

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Subsequently, once I had gathered all my information, I wanted to ensure the dates of publication were recent enough as to still be credible. Since one of the main conceptions of VAK learning styles began near the beginning of the 1970s, I decided that to keep my review relevant I wouldn't discuss any findings any further back than around this decade and include research up to the present day. I have where possible, included more research from 2000 onwards as there has been more research and publications during this time that has been reviewed and credited.

### **Adaptations and variations in learning styles**

The first concrete theory to gain a high level of credibility was David Kolb's Learning Style Inventory (LSI) in 1971 which created four different processes for learning that worked together in a cycle. According to Kolb, for learning to be effective, all four processes in the cycle had to be used, however students over time developed a preference for one learning style over the rest and thereby known as one of the following: Accommodator, Converger, Diverger or Assimilator (Kolb, 1984). Of course, the use of each of these processes depended on the demand of the situation as not every task required and/or catered for an accommodator or converger who were more practical, a diverger who needed to use more discussion techniques or an assimilator who used inductive reasoning within lessons.

Despite Kolb's Learning Style Inventory being incredibly successful within the educational field and widely used to measure learning styles of an individual, there are many researchers and educators who have concerns and suggest that the LSI possesses serious weaknesses. These flaws include low reliability, questionable validity and low predictive powers. Although Kolb maintains that all four processes must be at work for a student to progress and learn, the LSI presumes that individuals can only acquire one learning style (Manolis et al, 2012). This is supported by other authors who state that most students find little connection between the results of the LSI and knowledge acquisition, and the use of problem-solving strategies (Metallidou & Platsidou, 2008). This is relevant to my own experience in placement where I have observed teachers using Kolb's theory in practice, however, once it has been implemented they have no evidence to prove that it exemplifies students' learning in any way. This demonstrates a lack of consideration, forward thinking and planning in terms of what could be done to use this knowledge to an advantage. I will discuss how this could be done later in my findings.

Peter Honey and Alan Mumford adapted Kolb's learning styles inventory and designed a questionnaire to coincide with the model to help define which category an individual fit into best by asking a series of questions on how they prefer to work (Mumford, 1997). They also renamed the stages and aligned them each with a learning style as follows:

- An activist – having an experience
- A reflector – reviewing the experience
- A theorist – concluding from the experience
- A pragmatist – planning the next steps

Rather than being fixed characteristics, Honey and Mumford's model allowed an individual to work on their own strengths and weaknesses by collaborating with their preferred learning style to adapt and improve their own learning whilst gaining a clearer understanding of how to work independently on a range of topics. Whilst this model still gained criticism from various researchers and psychologists who believe the Learning Styles Questionnaire fails to acknowledge or understand the behavioural processes that students engage in when learning (Caple & Martin 1994), other researchers argue in favour of the Learning Styles Questionnaire by saying it appeared to be a more effective assessment of an individual's learning methods and seemed more capable of actually measuring something (Allinson & Hayes 1988). Having done several LSQs within university-based

days I have an understanding of what a basic model looks and works like, I knew beforehand how best I learned and retained information but it was not until taking the questionnaires that I understood what exactly that meant and how I could move forward with this knowledge to further my development even in terms of teaching rather than learning.

Moving ahead several years, I discovered articles on the VARK model by Neil Fleming who adapted his learning styles from other earlier designs by Barbe in the 1980s which is the more compact model that people still use today that consists of visual, auditory, read/write and kinaesthetic learning styles (Fleming & Mills, 1992). Fleming believed that learning styles should focus more on the sensory input and output rather than a response to the situation thereby improving an individuals' learning process and development. This was criticised by several researchers and educators including one professor of education who doubted the helpfulness of learning styles such as Fleming's VARK model in terms of advancing learning and furthermore suggested that they tend to label students and therefore hinder learning instead (Claxton, 2008). I have noticed this debate continue within my placement school where it seems many senior members of staff are in favour of integrating the model into the school system however on the other hand, I have listened to various other staff members complain that it has no bearing on a students' progress and should not be used. It would be interesting to research this further within the classroom and see whether students agree with this opinion or not.

### **Impact on teaching and learning**

Through my research, I concluded that although there are opposing views to VAK learning styles, everyone agrees with the basic principles of them i.e. what each category entails. Visual learners tend to create mental pictures of what a text is describing and additionally videos, diagrams and body language can all support a visual learner to progress (Rey, 2002). For auditory learners, listening to peers, group work and listening to the pitch and speed that information is produced allows them to understand information in more detail than they would otherwise. Finally, role plays, physical activity and cues and touch are just some of the ways in which a kinaesthetic learner can develop their education. Whilst these are the contents of the categories it needs to be made clear that this is not definitive, nor does it mean that an individual cannot learn through a different means if they are placed into one learning style, it simply means that through careful investigation this is their learning preference. Everyone has a vast range of learning styles and so it is more helpful to think of having a strength in auditory learning rather than being an auditory learner (May 2002).

According to Andrew Cohen, there is a larger number of visual and auditory learners amongst older students (Cohen, 1987), however, this does not mean that we as teachers should ignore kinaesthetic learning entirely as there are still many individuals whose preference is a more practical learning style. To help all students in their learning, we need to teach to as many of these preferences as possible (Cuaresma, 2008). This assertion is supported by a number of authors who state that to have a greater impact on an individual's learning, the classroom could be divided into different learning stations for different senses (Thompson, 2003). Room redesign and the development of small-group techniques have also been mentioned for the benefit of each learning style with the support of the teacher by having different learning stations and instructional areas, clearing the floor area and encouraging students to share their thoughts and ideas into the redesign (Dunn & Dunn, 1978). In fact, Peacock (2001) observed that when there was a correlation between teacher and learner style, students were likely to work harder. Many activities with learning potential fail to achieve the highest possible progress because they concentrate too much on one stage of Kolb's learning cycle (Mumford, 1997). To amend this, teachers need to adapt their teaching style to be inclusive of all learning styles as it will increase effective learning, student flexibility, and allow them to adapt their learning styles to different situations and demands (Abdulwahed & Nagy, 2009). Motivation rises as well if students know their own preference as it can subsequently increase

responsibility for their own learning and thereby have a greater influence on effective learning (Reid, 1999).

Many critics have presented opposing views with regards to a positive learning impact on students. One author has stated that there is a lack of evidence suggesting improved student achievement but also that the increased use of learning styles in the classroom could lead to a more harmful impact on the student rather than a beneficial one because they could develop theories about themselves that limit their learning instead of expanding on it (Vasquez, 2009). Pashler et al (2008) have concluded that out of all the literature surrounding learning styles and classroom instruction there is only one that shows evidence of a crossover between teacher and learner styles and even that had wide gaps in knowledge and lack of evidence to support its findings.

### Conclusion

Overall it is evident that this an area of research which will continue to divide educators for years to come as so far over 900 articles, reviews and journals have been produced with Coffield et al. (2004) alone describing 71 different learning style methods and this list was by no means exhaustive. The work by Kolb, Honey and Mumford and Fleming have significantly changed how students effectively learn and the impact this has on their motivation and development within the classroom. Whilst critics have argued passionately against learning styles this is not to say that those including Pachler et al do not believe that they should be ruled out but more that they should not be used as the be all and end all of education. There are a considerable number of factors that go into how best a person learns but what they have concluded is that everybody has the capacity to learn. Focusing exclusively on learning styles has drawn attention away from that underlying basis and purpose for learning.

What I discovered through my research was a lack of information on these learning styles linked to language learning especially with EAL (English as an additional language) learners and how they could be beneficial or harmful to their overall progress in learning. I feel that despite the research focussing on an increase in the effectiveness of learning for all students, it does not seem to factor in EAL students quite as fervently as native English speakers. I would like to deepen my understanding in this field and research it further for my second enquiry to gain a better insight into how visual, auditory and kinaesthetic learning styles impact on an EAL learner within a language classroom. As I have been struggling during my second placement with the overwhelming amount of EAL students in each class and how to successfully teach them inclusively, I believe this research will greatly inform and improve my teaching in the future and I will gain practical knowledge that I will be able to apply to my teaching strategies to increase progress and success for all students.

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