LEARNING STYLES

Identifying different learning styles to enhance the learning experience


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Conflict of interest
None declared

Abstract
Identifying your preferred learning style can be a useful way to optimise learning opportunities, and can help learners to recognise their strengths and areas for development in the way that learning takes place. It can also help teachers (educators) to recognise where additional activities are required to ensure the learning experience is robust and effective. There are several models available that may be used to identify learning styles. This article discusses these models and considers their usefulness in healthcare education. Models of teaching styles are also considered.

Keywords
adult learning, continuing professional development, education, learning preferences, learning styles, nurse education, teaching styles

Aims and intended learning outcomes
This article aims to outline the different learning styles and the frameworks or models that may be used to identify an individual’s preferred style of learning. After reading this article and completing the time out activities you should be able to:

» Identify which learning style best reflects your approach to learning.
» Reflect on other learning styles to identify your strengths and areas for development in these types of learning.
» Discuss different teaching styles and how they can influence learning.
» Devise strategies to address any learning deficits that might occur, especially when encountering a range of teaching and learning styles.

Introduction
The development of autonomous learners and the integration of theory and practice skills are important features of nurse education (Falk et al 2016). Therefore, it is important there is no single fixed learning environment; instead, this should comprise the university, clinical settings and the online environment. Teachers in nurse education may include lecturers, mentors, tutors, service users, other students and healthcare professionals. Healthcare education is vocational and involves more than book learning (knowledge gained from books or study rather than personal experience). A surface approach that focuses on rote learning of facts and figures is unlikely to enable a student to develop their practical skills and to prepare them to become a registered nurse responsible for high-quality patient care and safety.

In contrast, a learner who uses an ‘in-depth approach’, where the emphasis is on understanding and applying learning in practice, is more likely to be able to use and adapt knowledge in clinical settings. Therefore, an in-depth approach to learning is vital in healthcare education, and within this, there are a range of learning styles.

Learners who are engaged, motivated and willing to take responsibility for their learning will achieve more than learners who undertake a minimum amount of learning and do not engage with learning opportunities, because they will have a greater understanding of the subject
and will be able to apply and adapt their learning to a range of situations (Falk et al 2016).

**Learning styles**

Learning styles, also known as learning preferences, are defined as ‘the way each learner begins to concentrate on, process, and retain new and difficult information’ (Dunn et al 1994). Some learners are auditory and prefer listening, while others are visual, preferring images and written information. Some learners are tactile and feel comfortable with writing and practical ‘hands on’ working, and others are kinaesthetic, preferring activities such as simulations and case scenarios (Beischel 2011). There are many models, theories and frameworks that can be used for the identification of one’s learning style; according to Reid (2005) there are more than 100. Table 1 outlines the models that are commonly used.

An effective learning experience is one that is well understood, memorable and results in a new or enhanced way of

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thinking or practising. Understanding your personal learning style and the factors that influence it can help to enhance your learning, self-awareness and cognition. For instance, you may be in a learning situation that is unfamiliar or less likely to be of interest to you, but you have no influence over the setting and the speaker or facilitator. Being aware that you will find it difficult to absorb information in this setting, can help you to recognise the main learning points and explore the subject afterwards in your own time and in a way that is better suited to you.

For example, envisage yourself in a lecture with many people, in which you are aware that the topic is vital for clinical practice and the speaker is a renowned specialist. In this situation, it may be beneficial to concentrate on writing down the most important points the speaker makes and noting any references, suggestions for further reading and relevant websites mentioned. You will be able to follow these up in a way that suits you. You should also pay attention to any questions and responses raised in the session, since this will help you to remember what you should follow up on. The development of such strategies can assist in your lifelong learning and continuing professional development (CPD). Recognising your personal preferred learning style can help in planning how to learn.

A learning style is a preference rather than something that is fixed, and is influenced by previous learning experiences. It may be a strong or weak preference, encompassing a mixture of learning styles. Therefore, your learning style should be considered a useful guide to reflect on how and why you learn some things easily and find other things challenging, rather than a ‘label’ or a ‘box’ that confines your abilities.

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**KEY POINT**

A learning style is a preference rather than something that is fixed, and is influenced by previous learning experiences. It may be a strong or weak preference, encompassing a mixture of learning styles. Therefore, your learning style should be considered a useful guide to reflect on how and why you learn some things easily and find other things challenging, rather than a ‘label’ or a ‘box’ that confines your abilities.

Limitations of learning styles models

The usefulness of models to ascertain learning styles has been critiqued (Coffield et al 2004). Much of the literature related to learning and teaching styles and the tools for identifying these styles was written in the 1970s-1990s. In recent years, the literature has focused on examining the effect of these styles on individual learning. There has been debate about the reliability of these models and whether matching learning styles with teaching styles enhances learning (Reid 2005).

There has also been criticism of the supporting evidence from neuroscience (Greenfield 2005) and educational-theory perspectives (Stahl 2002, Coffield et al 2004). The central focus of this criticism is on the effect of learning styles, rather than on whether or not they exist. The work on...
learning styles originated in schools, and most of the research has been conducted in this setting. However, the ability of young children to answer ‘tick-box’ questions about their preferences has been challenged, and it could be suggested that answering questionnaires is more meaningful for adult learners than children.

Adult learners
In adult education, the student is responsible for their learning. The facilitation of learning opportunities and resources is the responsibility of the teacher in higher education. The student who adopts a unilateral approach to their learning may miss out on wider and in-depth learning experiences. For example, students who do not attend classes might miss opportunities to interact, ask questions and participate in activities that provide layers of meaning and enable application of knowledge to practice. Similarly, the student who attends classes but does not engage in reading or pre or post-session preparation, also risks missing out on the wider learning experience.

Effective teaching should involve raising awareness of, and signposting, information for the student to follow up. For these reasons, contemporary higher education, particularly nursing, uses lectures, seminar activities, group work, workplace learning (placements) and the online environment. A student who is actively engaged in their learning will improve their outcomes in terms of their motivation, self-esteem and control over their learning. Learning styles might affect individual and group learning, methods of studying and subsequent assignments (Pritchard 2014).

There is some evidence that working in one learning style, especially when matched with a particular teaching style, can result in students becoming bored and disengaged. Furthermore, students’ learning is enhanced when there is ‘some tension in the learning environment’ and they feel challenged (Vaughn and Baker 2008). This may not feel comfortable for the student, but it can be effective in augmenting learning.

There is a phenomenon in adult education often referred to as ‘learning shock’, which can affect learners who are new to higher education, who return to education after a long break or who move up an academic level. In these cases, learners might have difficulty when experiencing a new and unfamiliar type of education or approach. For example, a student who has previously learned in an environment that focuses on the rote learning of facts and figures might have difficulty learning in an environment where discussion and debate feature. Their preferred learning style has developed in one environment, but this might need to be adapted for a different time and environment (Griffiths et al 2005).

TIME OUT 1
Reflect on a learning situation that you enjoyed and answer the following questions:
» What was the learning environment?
» Was there a teacher or facilitator present, such as a tutor or mentor?
» What were you supposed to be learning?
» What did you actually learn?
» Why did you enjoy the experience?

Reflect on a learning situation that you did not enjoy or in which you did not feel comfortable, and answer the following questions:
» What was the learning environment?
» Was there a teacher or facilitator present, such as a tutor or mentor?
» What were you supposed to be learning?
» What did you actually learn?
» Why did you not enjoy the experience?
» Did you find the topic difficult?
» How was the topic taught?
» What did you do in addition to this encounter to explore the topic? For example, reading information online.

Why did you not feel comfortable? How could the experience have been different?
» If the teacher’s style is not your preferred approach, how might you provide constructive feedback in a timely manner to improve the next session?
Teaching styles

In the same way that we have preferred learning styles, we also have preferred teaching styles. A teacher is anyone involved in developing knowledge and is not only the tutor in the classroom or the mentor in a clinical area, but could also be a patient or a fellow student. Each individual will have a preferred style of teaching. Figure 1 shows descriptions for each of the teaching styles.

An experienced teacher may be able to adapt their teaching style to different environments, but they often revert to their preferred style in pressured situations (Vaughn and Baker 2008). For instance, in my teaching I usually adopt a ‘facilitator’ style (Montauk and Grasha 1993), which involves asking questions, working with students to explore options and expecting them to show initiative and independence in their learning (Montauk and Grasha 1993). This style is effective for the majority of the students I interact with, since they are registered and experienced nurses and group sizes tend not to be too large. However, when I am speaking to large cohorts of students, perhaps at the beginning of their professional education, I consciously adapt my style to the needs and capabilities of the learners. In this situation, I adopt a ‘delegator’ style, or a ‘formal authority’ style if the group is large, because interaction and a questioning dialogue is more difficult. When large lectures are followed by seminars or other group work, my preferred teaching style of facilitator becomes dominant.

The challenge of teaching large groups is in engaging the greatest number of students for the longest period of time. There is evidence that a didactic (instructional) lecture results in little information being learned by students (Horgan 2003). The addition of visual aids can increase the effectiveness of learning; however, difficulties remain because learners generally have a short attention span. Including activities increases effectiveness and subsequent recall of information (Arthurs 2007). Ideally, the learning experience involves a variety of activities that can supplement or complement the lecture, if necessary. Box 1 includes some suggestions for accommodating different learning styles.

TIME OUT 2

An important aspect of being a healthcare professional is teaching and imparting knowledge to colleagues, students, patients, families and carers. Reflect on yourself as a teacher and answer the following questions:

» How would you approach teaching another person?

» What teaching style would you adopt?

» How would you adapt your teaching style for a one-to-one situation?

» How would you adapt your teaching style for 20 people and 100 people?

TIME OUT 3

Choose one of the learning styles models in Table 1 and take a self-assessment test to identify your preferred learning style (Box 2). Try a different tool and compare your results. Are they similar or different? Remember, this is a preference to help you recognise your style of learning and should not become a label that constrains you. It can be helpful to recognise your strengths and limitations and focus on them in learning situations you are comfortable, or less comfortable with.

Kolb (1984) described types of learning styles as concrete, reflective, abstract and active, and learners as

Figure 1. Teaching styles

- **Expert**
  - Direct learners,
  - emphasise facts,
  - recognised experts

- **Formal authority**
  - Direct learners,
  - emphasise facts,
  - have status and a position
  - with the learner, emphasise
  - rules and traditions

- **Facilitator**
  - Focus on learning
  - relationships
  - More likely to use questions
  - and answers and discuss
  - options

- **Delegator**
  - Focus on supplying
  - resources

(Montauk and Grasha 1993)
divergers, assimilators, convergers and accommodators. Kolb and Kolb (2005) stated that nurses tend to have predominantly concrete and reflective styles. This aligns with a ‘diverging style’, in which information is processed through observation and feelings, and evidence is gathered to reach conclusions and plan actions (Kolb and Kolb 2005). This may be particularly useful in nursing, which closely aligns theory and practice and where evidence-based practice is crucial to the delivery of patient care in a caring and compassionate way. Figure 2 shows a model for learning style preferences based on the Honey and Mumford (1986) and Kolb and Kolb (2005) models.

Draper (2012) considered the concept of a learning community, which encompasses individuals with myriad learning styles and suggests that it is important for the learner and teacher to adapt for effective learning to take place. For example, the learner has to adapt to the learning opportunities available and the teacher has to adapt by ensuring broad learning opportunities are accessible.

TIME OUT 4

Identify the approach that each type of learner might adopt, using their preferred learning style, in the following situations:

» Planning an educational event on long-term conditions for junior nursing students.

» Working with a small group of peers to teach first-year nursing students to undertake a simple wound-dressing change using an aseptic non-touch technique.

» Any topic of your choice that might involve an individual and a group.

What might happen if this was a team exercise and all four learning styles were represented in the team? Thinking about your preferred learning style, how might you fit into this team?

Professional responsibility

Learning is essential to nursing practice. There are three statements in The Code: Professional Standards of Practice and Behaviour for Nurses and Midwives (Nursing and Midwifery Council (NMC) 2015) that relate to learning:

» 9.4: ‘Support students’ and colleagues’ learning to help them develop their professional competence and confidence.’

» 22.3: ‘Keep your knowledge up to date, taking part in appropriate and regular learning and professional development activities that aim to maintain and develop your competence and improve your performance.’

» 24.2: ‘Use all complaints as a form of feedback and an opportunity for reflection and learning to improve practice.’

One of the requirements for revalidation with the NMC is to demonstrate 35 hours of CPD activity and provide written evidence of reflection. Nurses are required to ensure their knowledge and skills are up to date to support evidence-based practice and to demonstrate commitment to the profession and to the provision of safe and effective care for patients (NMC 2015).

By understanding learning styles, interesting and engaging learning activities can be planned for CPD. Nursing students learning in large groups

BOX 1. Suggestions for accommodating different learning styles

» Concrete and active styles: group work with case studies, open-ended questions (Knowles et al 2005).

» Reflective styles: discussions, writing entries in a journal, diary or blog.

» Abstract styles: project work, constructing and applying models and algorithms.

» Accommodators: realistic clinical scenarios, short discussion exercises within a lecture or peer learning. However, Morris and Turnbull (2004) suggested caution with peer learning, since it can be viewed negatively by students.

» Divergers: group projects, emotion-based scenarios, experiential learning.

» Convergers: practical demonstrations, online learning, simulation.

» Assimilators: reading, text-based assignments, factual lectures (Sadler-Smith and Smith 2004).

BOX 2. Sources of frameworks to evaluate preferred learning styles


» Visual Auditory Read/Write Kinaesthetic Model (Fleming 2001) vark-learn.com/the-vark-questionnaire

» Learning Styles Inventory (Honey and Mumford 1986) www.askdoctorclarke.com/content/c349.pdf


» Myers-Briggs Type Indicator (Myers 1975) www.humanmetrics.com/cgi-win/jtypes2.asp

can identify the strengths and limitations of their learning styles, so that learning activities in the class or practice setting can be complemented by self-directed activities to ensure learning is optimised. Registered nurses have a responsibility to teach and mentor students, colleagues, patients and carers or families, so an understanding of learning and teaching styles can help ensure engagement with others and the clarity of information being conveyed.

**Adult learning and personal responsibility**

Understanding learning and teaching styles does not detract from the importance of assuming individual responsibility for personal learning. We all have different intellectual capabilities and starting points for learning; however, no learning will take place if there is no intellectual challenge and growth. In adult education, students are responsible for their learning; it is important for them to engage with learning in class, practice settings and online, as well as being prepared to attend sessions and undertake additional reading about the subject. At the same time, the educator or teacher is responsible for designing and facilitating learning opportunities and implementing robust and challenging assessments of learning.

Fleming et al (2011) conducted a study of learning styles among nursing students from three academic years in Ireland, using Honey and Mumford's (1986) model. They found that the most common style was reflector, but overall there was not a strong preference, indicating an 'all round' capability as learners. They concluded that it is important to have a range of learning opportunities for learners, but that they should also be 'stretched' beyond their comfort zones of preferred learning, so that they are able to learn in a range of environments. D’Amore et al (2012) surveyed 345 first-year nursing and midwifery students using a questionnaire that incorporated Kolb’s Learning Styles Inventory (Kolb and Kolb 2005). The response rate was 78%, and 60 responses were excluded because they were incomplete. D’Amore et al (2012) found the dominant learning styles to be divergers (29.5%, 84/285) followed by assimilators (28.8%, 82/285), accommodators (23.9%, 68/285) and convergers (17.9%, 51/285). These outcomes indicate most nursing students tend to sit to the right of the learning style preference diagram in Figure 2. This indicates nursing students tend towards the reflector quadrant (Figure 2); however, there is no strong preference overall. These findings are also supported by Fleming et al (2011).

Clinical practice is a different environment to university settings. There are few experiences in practice that do not lead to learning. However, these opportunities may not be suited to the style of the learner. For example, in an emergency situation, such as multiple trauma or cardiac arrest, the learner may have to think quickly and process a vast amount of information in a short time. This may be uncomfortable and challenging for the reflector or theorist. In other settings, such as older adult care or long-term rehabilitation, the activist or pragmatist might find it difficult to engage in situations where there is planning and discussion about long-term care. Recognising
These potential challenges can reduce frustration and optimise learning and the provision of care for patients as part of a team. Learners should be encouraged to use their strengths and find ways to develop their weaker learning preferences.

In Fleming et al’s (2011) study, older students tended towards an activist style; however, it was not clear if this was a result of maturity associated with a wider range of experiences, or if practical components of the course were better suited to this group of students. There was no correlation between learning style and academic outcomes; what matters is the learning and application of knowledge in practical and written work. Stahl (1999) and Willingham (2005) also indicated that tailoring education directly to individual learning styles does not affect student outcomes. Learning styles are not a measure of intellectual ability; instead, they are an indication of an individual preference. They tend to be on a continuum, and are not fixed but dependent on the setting and circumstance (Hatami 2013).

**Future developments**

Most of the commonly used models for identifying preferred learning styles were developed in the 1970s, 1980s and 1990s. Christodoulou et al (2015) reported initial testing of their newly developed instrument aimed at the ‘net generation’. They hypothesised that learners born after 1981 were using computers by the age of 5-8 years, and those born after 1990 have different learning preferences based on developments in online technology; therefore, existing learning style tools do not capture recent learning methods. There is a wide age range of learners in nursing; however, it is worth considering that our understanding of methods of learning and teaching are changing rapidly.

There is also discussion about how much students wish to use technology in the classroom. The National Union of Students (2010) reported a positive perception among students about the use of technology in the classroom. Other researchers, such as Corrin et al (2010) and Kennedy et al (2010), indicated that many students prefer technology to be for their personal use rather than academic study, although there is wide variation. It is important to note that learning is changing and there is a requirement for further research in nurse education to ensure learning and teaching are effective.

**Conclusion**

It is useful to determine an individual’s learning style to recognise strengths and limitations in learning opportunities. A learning style is not fixed and it can be beneficial to experience a range of styles. Education does not occur in isolation and it is necessary to take personal responsibility for optimising learning opportunities through further exploration and reflection on topics alone or as part of a group, face-to-face or online.

Identifying your preferred learning style and exploring other styles can help you to recognise where your learning will be straightforward and occasions where it may be challenging, to enable you to develop strategies to address any potential deficits.

**TIME OUT 5**

Now that you have completed the article, you might like to write a reflective account as part of your revalidation.

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**References**


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Learning styles
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1. In nurse education:
   a) The development of autonomous learners should be discouraged
   b) There should be one fixed learning environment
   c) Practice and theory skills should be integrated
   d) Online learning should not be used

2. What is a benefit of identifying your preferred learning style?
   a) It can help you to recognise your strengths and areas for development
   b) It can help you to plan your learning
   c) It can enhance your self-awareness and cognition
   d) All of the above

3. The four learning styles in the Honey and Mumford (1986) model are:
   a) Activist, reflector, theorist, pragmatist
   b) Visual, verbal, non-verbal, written
   c) Collaborative, competitive, dependent, participant
   d) Interpersonal, logical-mathematical, visual-spatial, verbal-linguistic

4. Learning styles are not generally influenced by:
   a) Culture
   b) Physical health
   c) Environment
   d) Age

5. In Fleming’s (2001) model, what does VAK stand for?
   a) Verbal Acquisition Kinetic
   b) Value Added Knowledge
   c) Visual Auditory Kinaesthetic
   d) Video and Audio Kit

6. Which of the following is a limitation of learning styles?
   a) They are not applicable to nursing students
   b) The models used may not be reliable and effective in enhancing learning
   c) They use a ‘surface approach’ to learning
   d) Answering questionnaires is more meaningful for young children than adults

7. Which is not a set of learning styles in the Myers-Briggs Type Indicator (Myers 1975)?
   a) Introversion or extroversion
   b) Sensing or intuition
   c) Thinking or feeling
   d) Reflection or action

8. A facilitator teaching style focuses on:
   a) Learning relationships
   b) Rules and traditions
   c) Supplying resources
   d) Direct learning

9. In relation to learning, the Nursing and Midwifery Council (2015) states that nurses must:
   a) Support students’ and colleagues’ learning
   b) Keep their knowledge up to date
   c) Take part in appropriate and regular learning and professional development activities
   d) All of the above

10. Why might a student who is actively engaged in their learning have effective outcomes?
    a) They have lower motivation
    b) They have a sense of control in their learning
    c) They have lower self-esteem
    d) They take a unilateral approach to their learning

How to complete this assessment
This self-assessment questionnaire will help you to test your knowledge. It comprises ten multiple choice questions that are broadly linked to the article starting on page 53. There is one correct answer to each question.

- You can test your subject knowledge by attempting the questions before reading the article, and then go back over them to see if you would answer any differently.
- You might like to read the article before trying the questions. The correct answers will be published in Nursing Standard on 26 October.

Subscribers making use of their RCNi Portfolio can complete this and other questionnaires online and save the result automatically. Alternatively, you can cut out this page and add it to your professional portfolio. Don’t forget to record the amount of time taken to complete it.

You may want to write a reflective account based on what you have learned. Visit journals.rcni.com/reflective-account

This self-assessment questionnaire was compiled by Alex Bainbridge

The answers to this questionnaire will be published on 26 October
The answers to SAQ 863 on Fibromyalgia, which appeared in the 28 September issue, are:
1 a 2 b 3 c 4 d 5 c 6 c 7 a 8 b 9 c 10 d