

EDUCATION AND LEARNING STRATEGIES

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Learning may be defined as any process that in living beings lead to permanent capacity for change and which is not solely due to biological maturation or ageing (Illeris 2007, p. 3). The concept of learning includes an extensive and complex set of processes.

The basis of the learning theory, i.e. the areas of knowledge and understanding that must underlie the development of a comprehensive and coherent theory construction. These include all the psychological, biological and social conditions which are involved in any learning. After this is the learning itself, including its processes and dimensions, different learning types and learning barriers, that are the central elements of the understanding of learning. Moreover, there are the specific internal and external conditions which are not only influencing but also directly involved in learning. And finally, the possible applications of learning are also involved. There are 5 basic educational learning theories which include: behaviorism, cognitive, constructivism, humanism, and connectivism. Additional learning theories include transformative, social, and experiential. The constructivist learning assumes that the learner themselves actively build up or construe their learning as mental structures. These structures exist in the



brain as dispositions which are often described by psychological metaphors as mental schemes. This shows that there must be some organization of the learning outcomes in the brain since we, when becoming aware of something – a person, a problem, a topic, etc. – within a fraction of a second are able to recall what we subjectively and mostly unconsciously define as relevant knowledge, understanding, attitudes, reactions and the like. However this organization is in no way a kind of archival database, and it's not possible to find the different elements at specific positions in the brain. It has the nature of what brain researchers call 'engrams', which are traces of circuits between some of the billions of neurons that have been active at earlier occasions and therefore are likely to be revived, perhaps with slightly different courses because of the impact of new experiences or understanding. The most common type of learning is assimilative or learning through addition, which means that the new element is linked as an addition to a scheme or pattern that is already established. An example could be learning in school subjects which are usually built up by constant additions to what has already been

learned, but assimilative learning also takes place in all contexts where one gradually develops one's capacities. The results of learning are characterized by being linked to the scheme or pattern in question in such a manner that it is relatively easy to recall and apply them when one is mentally oriented towards the field in question, for example a school subject, while they may be hard to access in other contexts. This is why problems are frequently experienced in applying knowledge from a school subject to other subjects or in contexts outside of school.

LEARNING IN HIGHER EDUCATION

The diversity of students engaged in higher education is increasing day by day and so is the need to diversify the learning styles and instructional media used to deliver information to learners in an effective and satisfactory way. The data suggests, students come to educational institutes from a varied ethnic and cultural backgrounds and as their cultural and ethnic backgrounds are different, they have different learning styles or to be more specific a particular learning pattern. The advances in technology have led many educators to reconsider traditional, uniform educational methods. It has been cited and proven by data that mismatches between an instructor's style of teaching and a student's method of learning is a potential learning obstacle within the classroom. With respect to this, VARK model, was introduced in 1992 by Fleming and Mills. VARK stands for VISUAL, AURAL, READ/WRITE and KINESTHETIC SENSORY MODALITIES that are used for learning information.

VISUAL

-People who learn visually prefer figures, pictures, and symbolic tools like graphs, flow charts, hierarchies and models.

AURAL/AUDITORY

- Auditory learners prefer to learn by listening.
- They benefit from audiotapes, podcasts, youtube videos and videotapes

VARK Learning Style Model

KINESTHETIC

People who are kinesthetic learners get their education via experience.

They learn primarily from observation or engaging in activities and experiments.

READING/WRITING

- People who learn by reading or writing learn by printed word.
- They prefer resources like textbooks, journal publications, doctor's notes, online articles, blogs and other texts.

I. VISUAL:

This component of VARK include use of information in the form of images, figures, symbolism and different formats, fonts, and colors to emphasize important points. This mode could also be called as "Graphic (G)" as that better explains what it

APPLICATION OF VISUAL LEARNING STYLE

IN EDUCATION:

- Use techniques of visual learning.
- Convert the "notes" into a learnable package by reducing each three pages down to one page.
- Reconstruct the images in assorted styles to suit one's way.
- Try different spatial arrangements.
- Redraw the learnable pages from memory. Replace some key words with symbols or drawings.
- Look at the pages and search for patterns.
- Practice turning the visuals back into words.

AT WORKPLACE:

- **Draw things to show one's ideas.**
- **Make complex work material and lists in the form flowcharts.**
- **Create symbols and graphs to simplify things.**
- **Make each page of reports look different.**
- **Spend more time on the design of presentations and less on the content.**

E.g., maps, spider diagrams, charts, graphs, flow charts, labeled diagrams, and all the symbolic arrows, circles, hierarchies, and other devices, that people use to represent what could have been presented in word

II. AURAL / AUDITORY:

This component of VARK describes a learner's preference for information that is "heard or spoken." People who use this style as their method for learning, report that they learn best from lectures, group discussion, radio, email, using mobile phones, speaking, webchat and talking things through. Email is included here because, although it is a text and could be included in the Read and write category, it is often written in chat-style with abbreviations, colloquial terms, slang, and non-formal language. This style includes talking aloud as well as talking to oneself. They may say again what has already been said or ask an obvious and previously answered question. They have need to say it themselves and they learn through saying it.

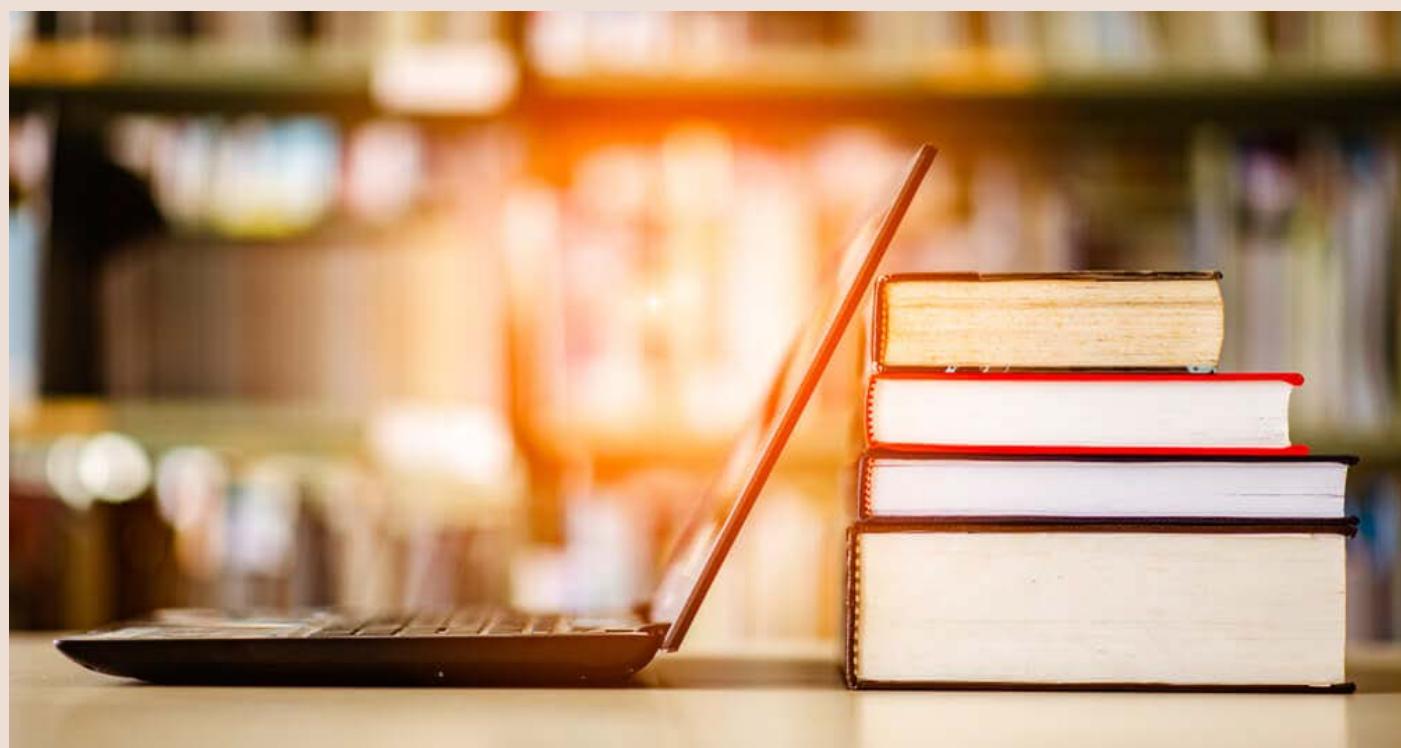
APPLICATION OF AUDITORY/AURAL LEARNING STYLE

IN EDUCATION:

- Convert the notes into a learnable package by reducing them into memorable ways easy to recall. E.g., three pages down to one page.
- Read the summarized notes aloud.
- Explain the notes to another person with an Aural preference, ask others to "hear" your understanding of a topic.
- Recording the summarized notes and listening to them is also an innovative idea.
- Attend classes, discussions, and tutorials.
- Discuss the topics with instructors and other colleagues. Explain latest ideas to other people.
- Remember interesting spoken examples, stories, jokes.
- Recalling.
- Turn the recordings into written words.
- Imagine talking with the examiner.

IN WORKPLACE:

- **Get questions answered by consultants, facilitators and leaders who have genuine authority.**
- **Active participation in discussion sessions, whether workshops, meetings, training, or information sharing.**
- **Seek online talk about one's area of expertise – podcasts and other oral sessions.**
- **Attend live training sessions where one can present any findings.**
- **Read the written notes aloud and allow for colleague's questions and re-statements.**
- **Respect others' views by allowing them to speak first.**



III. READ/WRITE:

This component of VARK consists of information displayed as words. Most of the learners have a strong preference for this mode of learning style. It emphasizes text-based input and output – reading and writing in all its forms but especially manuals, reports, essays, and assignments. People who prefer this modality often use PowerPoint, Internet, lists, diaries, dictionaries, quotations, and words.

APPLICATION OF READ/WRITE TYPE OF LEARNING STYLE

<p>IN EDUCATION:</p> <ul style="list-style-type: none"> • Try to put plenty of examples in the notes and answers. • Try to remember the “real” things that happened. • Search for the applications of ideas. • Find such diagrams and photographs that illustrate an abstract idea, theory, or principle. • Try to recall the experiments and field visits where you learned. • Role-play the test situation is a good idea for learning. 	<p>AT WORKPLACE:</p> <ul style="list-style-type: none"> • Role-plays to elaborate the ideas across. • Use of simulation techniques. • Recall of past examples and performances. • Recall the exact things that happened, the experiment, the journey, the incident, the client, the customer, and the facts. • Emphasize on the point of Practice, Practice, and Practice. • View videos and demonstrations of practical action.
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IV. KINESTHETIC:

Kinesthetics refer to the “perceptual preference related to the use of experience and practice (simulated or real).”

Such an experience can have involvement of other modalities as well; the key is that learners, who prefer this mode are connected to reality, “either through concrete personal experiences, examples, practice or simulation”

People who use this as a method of learning, learn from the experience of doing something and they value their own background experiences and the experiences of others. **Hands-on experience is important for kinesthetic learners.**

APPLICATION OF KINESTHETIC STYLE OF LEARNING

Now we will describe the few potential learning styles and their utility and limitations in assessing learning styles.

<p>IN EDUCATION</p> <ul style="list-style-type: none"> • Convert the “notes” into a easy learnable material by reducing them from three pages down to one page. • Writing the words again and again would be useful. • Read the notes (silently) and repeatedly. • Organize any diagrams, graph, into statements, e.g. “This graph shows that the trend is....” • Try rearranging the ideas and “try” different words. • Imagine the lists arranged in multiple choice questions and distinguish each from Kinesthetics others. 	<p>AT WORKPLACE</p> <ul style="list-style-type: none"> • Use of SWOT analyses, which stands for Strengths, Weaknesses, Opportunities and Threats. • Use Risk analyses. • Use strategic and management plans e.g., management by objectives (MBO), especially written ones. • Write the notes for other's use like handouts, noticeboards, and post-its. • Read carefully what others have written. • Read the new material which appears on noticeboards – in the workplace, office, and online. • Have current business news running on one's computer. • Use quotes from business magazines and journals. • Write lists of tasks and carefully record important print information. • Find out the preferences of others and deliver in their preferred mode.
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PEER ASSISTED LEARNING:

AS A NEW WAY OF LEARNING:

Peer-assisted learning (PAL) is the development of new knowledge and skills through active learning support from peers. According to literature: "People from similar social groupings who are not professional teachers helping each other to learn and learning themselves by teaching."

PAL is a widely accepted way of socializing with one another. It is constructed upon the theories of I. Social constructivism and II. Cognitive congruence.

Social constructivism works on two main principles.

1. Knowledge is constructed through human activity.
2. Individuals create meaning through their interaction.

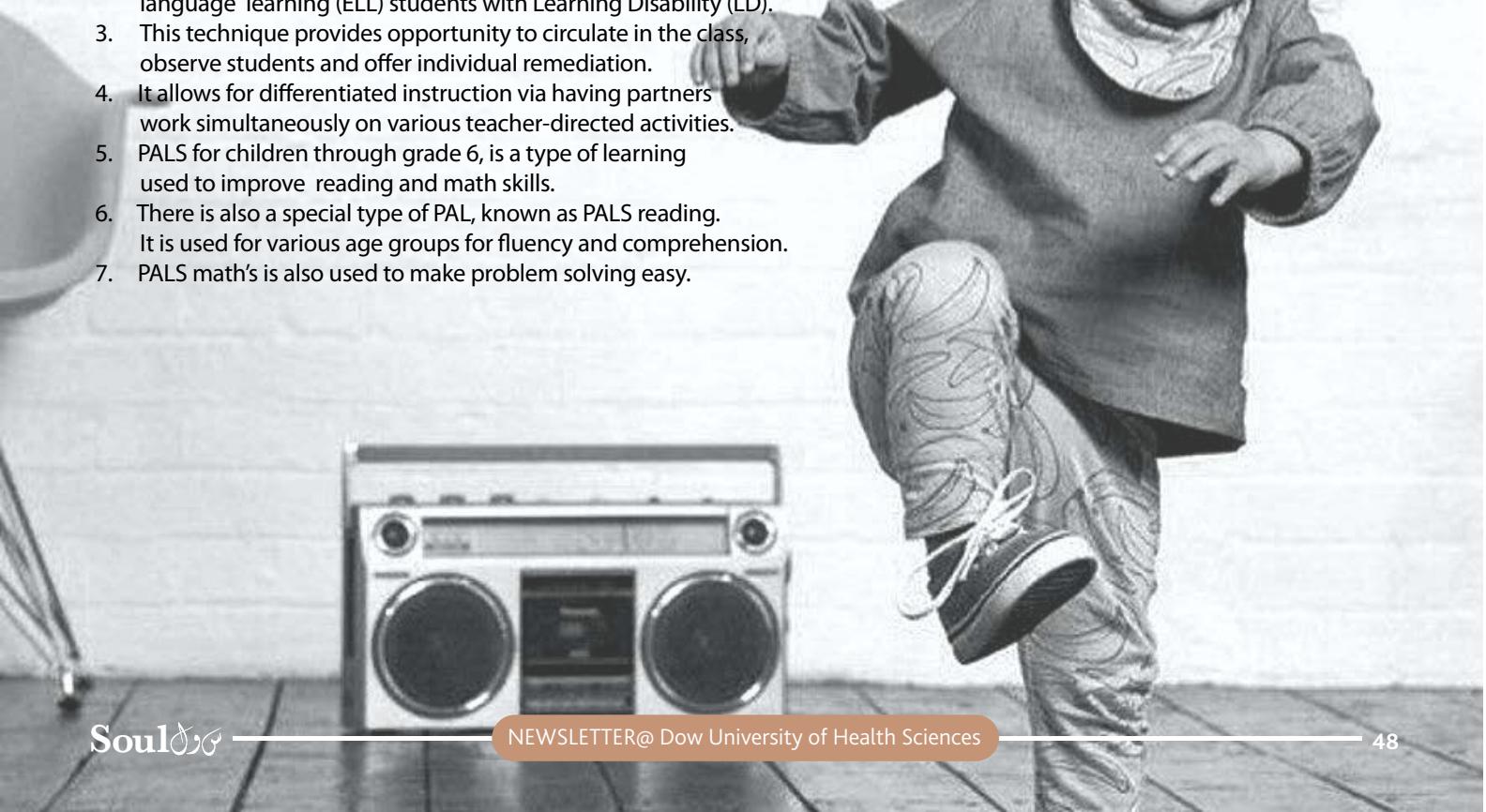
PAL is influenced by this theory that students learn from peers in a social setting towards a common goal of understanding. Another more commonly cited theory behind peer-assisted learning initiatives is cognitive congruence. This theory mainly focuses on the relative gap in knowledge between a student and an instructor and states that the smaller the gap between teachers and learners, the more are the chances of communication of facts and understanding.

METHODS:

- I. An instructor partners a student with a classmate.
- II. The pair works on various activities that address the academic needs of both students.
- III. Pairs changing over time assist all to act as instructor and learners.
- IV. It consists of 25-35 minutes activities that is implemented for 2-4 times a week for 14-31 weeks.

BENEFITS OF PEER-ASSISTED LEARNING

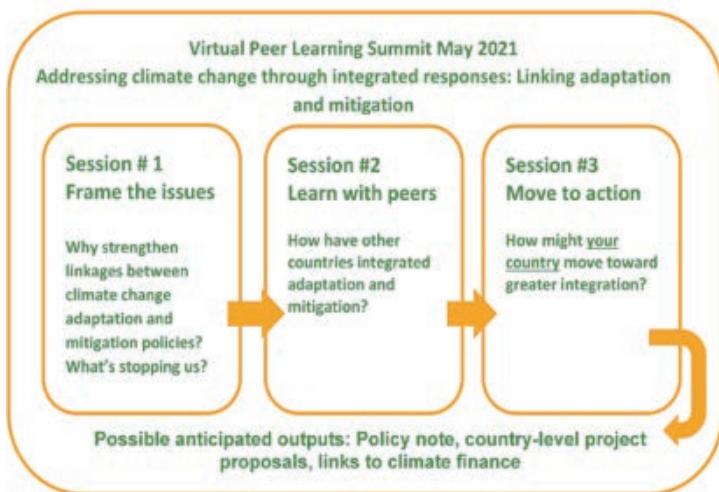
1. It does not require special reading material and consequently enables teachers to use the reading material of their choice.
2. This technique has been implicated as a strategy for English language learning (ELL) students with Learning Disability (LD).
3. This technique provides opportunity to circulate in the class, observe students and offer individual remediation.
4. It allows for differentiated instruction via having partners work simultaneously on various teacher-directed activities.
5. PALS for children through grade 6, is a type of learning used to improve reading and math skills.
6. There is also a special type of PAL, known as PALS reading. It is used for various age groups for fluency and comprehension.
7. PALS math's is also used to make problem solving easy.





STRATEGY AND GOAL SETTING:

- Create pairs within the classroom by identifying which children require help on specific skills and who the most appropriate children are to help other children learn those skills.
- Each member of the teacher assigned pair takes turns being "Coach and Reader".
- These pairs are changed over a period as students work on a variety of skills. Thus, all students can be the coaches and players.
- Teachers train students to use PALS procedures.
- As the reader reads aloud, the coach listens and provides corrective feedback.
- The PALS technique is a 25–35-minute activity. It should be implemented 2-4 times a week for effective results.



Peer Learning Summit, May 4th, 2020.

ROLE OF PEER ASSISTED LEARNING IN MEDICAL EDUCATION:

The relative information on effectiveness of PALS in medical education is sparse. Although some research suggests that PAL increased the improvement in objective structured clinical examination (OSCE) and subsequent test scores.

A study conducted at university of Washington school of Medicine, suggested that PAL was more effective than traditional simulations for learning in terms of student's engagement and less faculty sight.

The general conclusion is that learning is a very complicated matter, and analyses, programmes and discussions of learning must consider the whole field if they're to be adequate and reliable.

The missing perspective in learning is lack of young people's engagement in the process of personal identity development. This development is ,albeit, an absolute necessity for navigation in the late-modern, globalized society. Hence, young people fundamentally meet all the learning initiatives –consciously or unconsciously – with such questions as: What does this mean to me? or What can I use this for?; implying that it is only worth paying attention to if it is subjectively accepted as a useful contribution to the present demands of the identity process. And the premises of this judgement lie equally in all three learning dimensions, i.e. the programme which is offered must not only have an acceptable, interesting and challenging content, it must also contribute to an acceptable positioning in relation to contemporary trends on the youth lifestyle market, and it must be organized in ways and by teachers or other persons who are in harmony with the personal needs of the young learners. One may think that such demands are not relevant or acceptable, and many people in the educational field are of this opinion, but the inevitable consequence will then be a continued high drop-out rate (Illeris 2003, 2007).

References:

1. Fuchs, D., Fuchs, L., & Burish, P. (2000). Peer-Assisted Learning Strategies: An Evidence-Based Practice to Promote Reading Achievement. *Learning Disabilities Research and Practice*, 15(2), 85-91.
2. Fuchs, L., Fuchs, D., & Kazdan, S. (1999). Effects of peer-assisted learning strategies on high school students with serious reading problems. *Remedial and Special Education*, 20(5), 309-318.
3. Saenz, L., Fuchs, L., & Fuchs, D. (2005) Peer-Assisted Learning Strategies for English Language Learners with Learning Disabilities. *Exceptional Children*, (71).
4. Vanderbilt Kennedy Center for Research on Human Development. (n.d.). Peer-Assisted Learning Strategies. Retrieved 2008, January 21, from <http://kc.vanderbilt.edu/pals/>
5. Jauregui, J., Bright, S., Strote, J., & Shandro, J. <https://doi.org/10.5811/westjem.2017.10.35319>
6. Williams B, Reddy P. Does peer-assisted learning improve academic performance? a scoping review.)
7. Contemporary Theories of Learning, 2nd Edition, Edited by Knud Elleris.
8. (Jauregui, J., Bright, S., Strote, J., & Shandro, J. (2018). A Novel Approach to Medical Student Peer-assisted Learning Through Case-based Simulations. *The western journal of emergency medicine*, 19(1), 193–197).