



## LEARNING STYLES AND PREFERENCES ( KINESTHETIC)

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### ABSTRACT

*Learning style is an approach students start to adopt to new information. It can be assessed by various models. Among them, the VARK (visual-V, aural-A, read/write-R, kinesthetic-K) model is more appropriate, concise, and reliable. Visual learners grasp information best through images and diagrams; auditory learners excel by listening to spoken content; reading/writing learners prefer writing and text-based materials; and kinesthetic learners understand concepts through hands-on activities. Understanding students' preferences of learning styles grants higher academic efficiency and helps the faculty to use suitable teaching methods for enhancing the student's grasping ability.*

**Keywords:** *Learning styles, VARK model, visual learners, auditory learners, reading/writing learning style, kinesthetic learners, academic efficiency, students' preferences, adaptive teaching methods, Information processing.*

### ANNOTATSIYA

*Ta'lim uslubi - bu talabalar yangi ma'lumotlarga o'zlashtira boshlaydigan yondashuv. Turli xil modellar bilan baholanishi mumkin. Ular orasida VARK (vizual-V, aural-A, o'qish/yo'zish-R, kinestetik-K) modeli ko'proq mos, ixcham va ishonchli hisoblanadi. Vizual o'quvchilar ma'lumotni tasvirlar va diagrammalar orqali yaxshiroq tushunadilar; eshitish o'quvchilari nutq mazmunini tinglash orqali ustunlikka erishadilar; o'qish/yo'zish o'quvchilari yozish va matnga asoslangan materiallarni afzal ko'radi; kinestetik o'quvchilar esa amaliy mashg'ulotlar orqali tushunchalarni tushunadilar. Talabalarning ta'lim uslublariga bo'lgan afzalliklarini tushunish yuqori akademik samaradorlikni beradi va fakultetga talabalarning tushunish qobiliyatini oshirish uchun mos o'qitish usullaridan foydalanishga yordam beradi.*

**Kalit so'zlar:** *Ta'lim uslublari, VARK modeli, vizual o'rganuvchilar, eshitish qobiliyatini o'rganuvchilar, o'qish/yo'zishni o'rganish uslubi, kinestetik o'quvchilar, akademik samaradorlik, o'quvchilarning afzalliklari, moslashuvchan o'qitish usullari, Axborotni qayta ishlash.*



## АННОТАЦИЯ

*Стиль обучения — это подход, с помощью которого студенты начинают усваивать новую информацию. Его можно оценить с помощью различных моделей. Среди них модель VARK (визуальный — V, слуховой — A, чтение/письмо — R, кинестетический — K) считается наиболее подходящей, краткой и надежной. Визуальные учащиеся лучше понимают информацию через изображения и диаграммы; слуховые учащиеся преуспевают, слушая устную речь; учащиеся, предпочитающие чтение/письмо, предпочитают письменные и текстовые материалы; а кинестетические учащиеся понимают концепции через практические занятия. Понимание предпочтений студентов в отношении стилей обучения обеспечивает более высокую успеваемость и помогает преподавателям использовать соответствующие методы обучения для улучшения понимания студентами материала.*

**Ключевые слова:** *стили обучения, модель VARK, визуальные учащиеся, слуховые учащиеся, стиль обучения чтение/письмо, кинестетические учащиеся, успеваемость, предпочтения студентов, адаптивные методы обучения, обработка информации*

### **Introduction:**

This descriptive cross-sectional study was performed at Rehman Medical College, Peshawar, Pakistan, from January to June 2023. Through a non-probability approach, using universal sampling, 493 students from first-fifth year were assessed by a printed VARK questionnaire. Learning preferences were graded as unimodal when a student had opted for one learning style; bimodal: chosen two learning styles; trimodal: three options were preferred; and quadmodal: all the four options were opted. Knowing the learning preferences of the students will help the faculty to use suitable teaching methods to enhance the students' grasping ability. After testing data for normality by the Kolmogorov-Smirnov test, ANOVA was used for comparing the learning styles, followed by post-hoc. The t-test was used for comparing means of two groups based on gender, residential status, and educational system (O-level and matric) using SPSS.

Kinesthetic learning, also known as tactile or hands-on learning, is an educational approach that emphasizes active participation and physical engagement to enhance understanding and retention. This learning style is particularly effective for students who learn best by doing, as it allows them to interact with the material directly, rather than passively observing or listening. Kinesthetic learners benefit from activities that involve movement, manipulation of objects, and real-world experiences, which can make abstract concepts more tangible and memorable. This paper explores the key principles of kinesthetic learning, examining how physical activity and experiential methods contribute to cognitive development and knowledge retention. It highlights various teaching strategies and tools that can support kinesthetic learning, such as lab experiments, role-playing, field trips, and interactive simulations. Additionally, the paper discusses the application of



kinesthetic learning in different subjects, from science labs and art projects to physical education and vocational training, demonstrating its versatility and effectiveness across disciplines. The study also addresses the challenges of implementing kinesthetic learning in traditional classroom settings, where space, resources, and time constraints can limit opportunities for hands-on activities. Strategies to overcome these obstacles are presented, including the integration of digital tools like augmented reality (AR) and virtual reality (VR), which offer immersive experiences without requiring extensive physical space. The research emphasizes the importance of adapting learning environments to meet the needs of kinesthetic learners, fostering an inclusive and engaging educational experience.

**Kinesthetic Learning: Hands-On Learning and Active Engagement**  
**Date: October 26 2024**  
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Abstract Kinesthetic learning, also known as tactile or hands-on learning, is an educational approach that emphasizes active participation and physical engagement to enhance understanding and retention. This learning style is particularly effective for students who learn best by doing, as it allows them to interact with the material directly, rather than passively observing or listening. Kinesthetic learners benefit from activities that involve movement, manipulation of objects, and real-world experiences, which can make abstract concepts more tangible and memorable. This paper explores the key principles of kinesthetic learning, examining how physical activity and experiential methods contribute to cognitive development and knowledge retention. It highlights various teaching strategies and tools that can support kinesthetic learning, such as lab experiments, role-playing, field trips, and interactive simulations. Additionally, the paper discusses the application of kinesthetic learning in different subjects, from science labs and art projects to physical education and vocational training, demonstrating its versatility and effectiveness across disciplines. The study also addresses the challenges of implementing kinesthetic learning in traditional classroom settings, where space, resources, and time constraints can limit opportunities for hands-on activities. Strategies to overcome these obstacles are presented, including the integration of digital tools like augmented reality (AR) and virtual reality (VR), which offer immersive experiences without requiring extensive physical space. The research emphasizes the importance of adapting learning environments to meet the needs of kinesthetic learners, fostering an inclusive and engaging educational experience.

Kinesthetic learning, also known as tactile learning, is a learning style in which individuals learn best through physical activities such as touching, moving, or performing hands-on tasks. Kinesthetic learners are often described as hands-on learners who require active participation and physical engagement to understand and retain new information fully. They enjoy hands-on activities such as building, crafting and creating things. They also tend to doodle a lot while listening. Unlike other learning styles, such as auditory and reading/writing, where learners prefer to listen or read, kinesthetic learners prefer to learn by doing and experiencing. Today, we'll explain everything educators need to know about



kinesthetic learning. We'll cover everything from benefits to characteristics and demonstrate real examples of how you can implement it.

### ***What is Kinesthetic Learning?***

According to Cambridge Dictionary, the word kinesthesia means knowing where the parts of your body are and how they are moving. It describes the type of learning that emphasizes physical activity and hands-on experiences as the primary means of learning and understanding new information. For kinesthetic learners, simply reading or listening to information may not be enough to fully comprehend or retain it. Instead, they must engage in hands-on experiences. For example, if you're covering a topic on how to plant strawberries, you may read about it, watch instructional videos, and have group discussions. But, a kinesthetic learner will only understand and remember if you actually plant the strawberries.

### ***Stats and Trends of Kinesthetic Learning in 2025***

Kinesthetic learning, often called tactile learning, is a highly effective educational method for many students, particularly those who struggle with traditional lecture-based teaching. Studies show that approximately **15-20%** of learners identify as kinesthetic, meaning they learn best by engaging in hands-on activities, physical movement, or real-world experiences. Research from the National Training Laboratories suggests that learners retain up to **75%** of information when actively participating in a task compared to only **10%** through passive methods like reading or listening to lectures. In recent years, trends in education have increasingly embraced kinesthetic approaches, particularly in **STEM** fields and experiential learning programs. With the rise of project-based learning (PBL) and maker spaces in schools, kinesthetic learners now have more significant opportunities to thrive. Additionally, the shift towards incorporating augmented reality (AR) and virtual reality (VR) tools has enhanced hands-on learning by simulating real-world environments, further engaging students in interactive and immersive ways. These trends highlight the growing recognition of movement and active participation as crucial elements in modern education.

Kinesthetic learning is one of four different learning styles in the VARK model. The VARK model is a framework used to describe different learning styles. It was developed by Neil Fleming in the late **1980s**, and it categorizes learners into four main categories based on their preferred learning method. The four learning styles in the VARK model are:

**Visual learners:** Prefer to learn through visual aids such as diagrams, pictures, and videos.

**Auditory learners:** Learn better through listening, either through lectures, discussions, or podcasts.

**Reading/Writing learners:** Prefer to learn through written material, such as books and articles.

**Kinesthetic learners:** Learn through hands-on activities and physical experiences.



## How Kinesthetic Learners Learn

As mentioned, kinesthetic learners learn through real-life experiences and physical activity. They tend to learn best by doing, touching, and manipulating objects. Kinesthetic learners enjoy acting out scenarios, which helps them better understand the material and apply it to real-world situations. Kinesthetic learning takes place in normal daily life too. For instance, imagine wanting to learn how to ride a bike. No amount of instructions will help as much as getting on the bike, falling a few times, and learning how to maneuver the whole process. The table below shows the differences between a kinesthetic learner and a visual learner.

- | Kinesthetic Learners                                                                                                                                                                                                                                                                                                                                                                             | Visual Learners |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"><li>• Have a better memory retention when they're actively doing something while learning</li><li>• Have a better memory retention when they can see visual representations of the topic.</li><li>• Prefer active learning environments where they can move around and engage with the material.</li><li>• Prefer visually stimulating environments.</li></ul> |                 |

Benefit from using movement and physical activity techniques, such as role-playing and experiments.

Benefit from techniques that involve visual aids, such as flashcards, diagrams, and charts.

### Characteristics of Kinesthetic Learning Style

For kinesthetic learners, doing things and engaging in physical activity is critical for effective learning. It works better for them than seeing or listening. By doing things, they can physically connect with the concept, which helps with memory retention. They also get to receive immediate feedback on their actions. This feedback helps them adjust their actions where needed leading to better learning outcomes. For young children, you can spot kinesthetic learning characteristics in several ways. For example, mimicking the actions of others, asking to touch things, tearing things apart, or fidgeting when asked to sit still for long periods. The following are some common characteristics of kinesthetic learners:

Good at visualizing how objects fit together and may excel in activities that require physical coordination, such as sports or dance.

Very active and often prefer activities that involve movement, such as sports or dance.

Good at multitasking and can perform physical tasks while simultaneously processing information.

By understanding their learning style and providing opportunities for active learning, you can help kinesthetic learners thrive and reach their full potential.

### *Benefits of Kinesthetic Learning Style*

Kinesthetic learners typically play with the material and need physical sensations to learn. This has several benefits for students. Let's explore the benefits of kinesthetic learning style.



### ***Improved Comprehension***

Inadequate teaching styles can prevent kinesthetic learners from learning as effectively as other students. For example, the lack of hands-on activities can make it harder for kinesthetic learners to engage with the material. In another instance, kinesthetic learners may struggle with written assignments and tests because they prefer to learn through physical activity. If a teacher only emphasizes written work, kinesthetic learners may feel left behind. If teachers do not recognize the importance of different learning styles, they may not provide opportunities for kinesthetic learners to learn effectively. This can lead to frustration and a lack of engagement in the classroom. On the other hand, when kinesthetic learners are being taught in a way tailored to their learning method, the comprehension process can be very effective. This can lead to better academic performance and greater engagement with the learning process.

### ***Supports Cognitive Development***

Many studies suggest that thinking and movement are connected in our brains. Pairing cognitive activity with movement is an effective way to help kinesthetic learners stay focused and interested in the material they are learning. Movement also helps kinesthetic learners understand concepts by providing a physical representation of the ideas they are trying to learn. For example, a kinesthetic learner will understand the concept of gravity better by acting out the force of gravity on their body. By engaging their bodies and minds simultaneously, kinesthetic learners improve their retention, understanding, and creativity.

### ***Better Social Skills***

Kinesthetic learning often involves group work and collaboration, which helps students develop teamwork and communication skills. Group role-playing, teamwork, and cooperation are important elements that help kinesthetic learners develop social skills. Through working together to complete physical tasks, learners can practice listening to others, providing feedback, and problem-solving as a group. Additionally, kinesthetic learning improves verbal communication skills. Through practicing activities with peers, learners get better at articulating their thoughts and ideas.

### ***Improves Muscle Memory***

Kinesthetic learning helps improve muscle memory by engaging the learner's body in the learning process. Muscle memory is a type of procedural memory that involves the ability to repeat a physical task or movement without conscious thought. It's developed through repeated practice. Kinesthetic learning often involves using the whole body to perform physical tasks. This helps develop muscle memory by engaging multiple muscle groups and making the movement more natural and automatic. Examples of kinesthetic learning activities that can improve muscle memory include

Sports such as shooting a basketball or practicing dance routines and other physical activities.



Performing arts, such as theater or dance, that involve repeated physical movements and actions.

Fine motor skill development, such as drawing or playing musical instruments, that involve precise movements and hand-eye coordination.

### ***Three Examples of Kinesthetic Activities***

Learning is most effective when you engage your hands, mind, and body together. You'll actively participate in these activities by building, role-playing, or experimenting to deepen your understanding. Get ready to collaborate, explore real-world connections, and have fun while learning!

#### **1. Building a Model to Learn Anatomy**

**Scenario:** A biology class is learning about the human skeletal system.

*Preparation:*

Provide materials such as clay, pipe cleaners, printed images of bones, or a pre-packaged skeleton model kit.

Include label diagrams and briefly explain how bones fit together (e.g., joints, ligaments).

*Activity Steps:*

Begin by discussing the significant parts of the skeletal system, highlighting key bones like the femur, humerus, and skull.

Assign small groups of students to build specific sections of the skeleton (e.g., arms, legs, or torso).

As students handle each bone or material, ask them to name it aloud and discuss its function (e.g., "This is the femur, the largest bone in the body, which supports the body's weight").

Once all groups have completed their sections, have them collaborate to assemble the full skeleton.

Encourage students to move the joints to see how they articulate and discuss the role of cartilage and ligaments.

*Follow-Up:* Have students quiz each other by pointing to bones and naming their functions. Encourage them to compare their model to real X-rays or 3D online simulations.

#### **2. Role-Playing Historical Events**

**Scenario:** A history lesson on the American Revolution.

*Preparation:*

Create scripts or summaries for key historical events (e.g., Boston Tea Party, signing of the Declaration of Independence, or the Battle of Yorktown).

Assign specific roles (e.g., George Washington, King George III, Thomas Jefferson, soldiers, or townspeople).

Provide simple props such as costumes, hats, scrolls, or flags.



*Activity Steps:* Begin with a short lecture or video introducing the historical event and its significance. Assign roles to students and distribute the scripts. Allow time for them to read their lines and understand their roles.

Set up the scene in the classroom, using desks, chairs, or other objects to simulate the environment (e.g., a meeting hall for the Continental Congress).

Have students act out the scene, encouraging improvisation if appropriate while staying true to the historical facts.

Pause the reenactment at key moments to ask reflective questions, such as, "Why would this decision have been controversial?" or "How might this have affected the outcome of the war?"

Follow-up: Conclude with a discussion in which students reflect on their roles, share what they learned, and connect the events to modern implications.

### **3. Conducting a Science Experiment**

*Scenario:* A physics class studying Newton's laws of motion.

Preparation:

Gather materials: toy cars, ramps (made from cardboard or wood), measuring tapes, stopwatches, and weights.

Prepare a worksheet with space for students to record observations, including variables such as ramp angle, car weight, and travel distance.

*Activity Steps:* Begin by discussing Newton's laws of motion, focusing on force, friction, and acceleration.

Divide students into small groups and provide each group with materials.

Have students set up a ramp at a specific angle (e.g., 20 degrees) and release the car from the top without pushing it.

Students measure how far the car travels and how long it takes to reach the bottom of the ramp, recording their data on a worksheet.

Repeat the experiment by changing variables, such as increasing the ramp's angle or adding weights to the car. Before testing, have students hypothesize how these changes will affect the results.

Encourage students to analyze their data by comparing results across different setups.

*Follow-up:* Have groups present their findings to the class, highlighting how the data supports or refutes their hypotheses. Then, discuss real-world applications of these principles, such as in transportation or engineering.

### **Kinesthetic Teaching Tools**

There are many tools or activities that teachers can use to help kinesthetic learners understand and retain information. We'll now look at the kinesthetic learning activities and how they can be implemented in a classroom setting.

#### ***Stand-on Simulations***

Stand-on simulations refer to a type of training or exercise where participants remain standing throughout the simulation instead of sitting or moving around. In stand-on



simulations, participants are asked to role-play different scenarios and make decisions under pressure while standing and moving around a simulated environment. This helps improve physical stamina, coordination, and decision-making skills, while also providing a more dynamic and engaging learning experience. By engaging in stand-on simulations, kinesthetic learners can use their bodies and physical movements to better understand and internalize new information and skills. In addition, stand-on simulations help kinesthetic learners develop problem-solving and decision-making skills by requiring them to react quickly and make decisions while in motion.

### ***Micro-Learning Lessons***

Micro-learning is a teaching method that delivers content in short, bite-sized lessons designed to be consumed quickly and easily. Micro-learning lessons are designed to be brief and concise, with most lessons ranging from a few minutes to 15 minutes or less. Here, teachers focus on one learning objective at a time. Micro-learning lessons can be delivered as experiments, videos, podcasts, infographics, or interactive quizzes, to make the learning experience more engaging and interactive. By breaking down content into smaller chunks, learners can absorb information more easily and retain it for longer.

### ***Interactive Documents***

Interactive documents are digital documents that allow users to engage with the content in a more interactive way. Unlike traditional static documents, such as PDFs or Word documents, interactive documents include multimedia elements such as images, videos, gifs and clickable links.

Role playing is an effective tool for kinesthetic learners, because it provides them with an opportunity to engage with the material in a more hands-on and interactive way. For example, let's say you are teaching a lesson on conflict resolution. You could start by presenting a scenario, such as a disagreement between two friends.

To help your kinesthetic learners better understand and apply the material, you could ask them to take on different roles, such as the two friends and a mediator.

Your learners could then act out the scenario, practicing important conflict resolution skills such as effective communication, active listening, and problem-solving.

After the role play, you could facilitate a discussion about what worked well, what could have been improved, and how the conflict could have been resolved more effectively.

By using role playing in this way, you are providing your tactile learners with an opportunity to engage with real-life examples, which helps them understand better.

### ***Kinesthetic Teaching Methods***

As a teacher, you should be able to determine which of your learners are kinesthetic. This way, you can employ teaching methods to improve their academic performance.

If you incorporate kinesthetic learning in your classroom, you're not only benefiting your kinesthetic learners but also other students with different approaches to learning.

Let's look at ways you can give a kinesthetic learning experience to your entire classroom.



### *Incorporating Kinesthetic-Friendly Activities in Your Lessons*

Research has shown that the average attention span of an adult is between **10 to 20** minutes. For children and young learners, attention spans can be even shorter.

Shorter lessons are a kinesthetic-friendly approach that helps learners stay engaged and focused throughout the lesson. You can introduce activities to help them develop various skills and abilities.

Shorter lessons help learners retain more information by allowing them to focus on a smaller amount of material at one time. This can be particularly important for kinesthetic learners who may struggle to stay focused on longer lessons.

Shorter lessons also provide more opportunities for learners to review and reflect on what they have learned. This helps to reinforce their understanding and promote deeper learning.

By incorporating kinesthetic-friendly activities in your classroom, you can help kinesthetic learners be more fully engaged and successful in their learning.

#### **Implement Movement**

For kinesthetic learners, body movement is an essential part of the learning process. It's important to allow them to move in the classroom because movement helps kinesthetic learners improve their focus and attention by providing an outlet for excess energy.

Movement-based activities also encourage kinesthetic learners to express their creativity in new and unique ways.

Remember, it's important to incorporate movement into a classroom without negatively affecting classroom management.

*Establish clear guidelines and expectations for movement in the classroom by:*

- Amount of movement allowed during certain activities,
- Establishing rules for movement and noise levels, and
- Providing alternative activities for students who struggle with movement-based learning.

#### **Motivate Students to Create Their Own Notes**

Encouraging your students to take notes helps them to understand better and retain information, as well as improve their organizational skills.

Taking notes helps kinesthetic learners reinforce what they've learned by allowing them to review the material at a later time.

This also helps them to identify areas where they may need additional clarification or support.

You should encourage your students to take notes in several ways until they determine which style works best for them.

#### **CONCLUSION**

Most of the students were kinesthetic and preferred bimodal learning. Females favored kinesthetic; urban students opted for visual, While students in conventional education systems who preferred the aural learning style were comparatively greater in



number. Knowing the students' different styles of learning will benefit facilitators in developing relevant teaching approaches for improved outcomes.

#### REFERENCES:

1. Fleming, N. D., & Mills, C. (1992). *Not Another Inventory, Rather a Catalyst for Reflection*. *To Improve the Academy*, 11(1), 137–155.
2. O'Brien, L. (1991). *Learning Channels: Where Do You Fit In?* *Journal of Nursing Education*, 30(4), 182–186.
3. Cambridgeshire Dictionary. (2024). *Kinesthetic Learning Definition*. Cambridge University Press.
4. <https://hpe.researchcommons.org/journal/vol11/iss3/15/>