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Research Article

Exploring the Application of the VARK Model to Enhance Student Engagement in the Classroom: A Case Study within the American Degree Transfer Program at Sunway University

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ABSTRACT

Effective communication aligns well with the use of the VARK model, which includes visual, aural, read/write, and kinesthetic learning styles. Each style offers a unique approach to foster suitable learning methods among students. This study investigates the influence of student learning preferences and identifies the most effective teaching style using the VARK model by academicians in the American Degree Transfer Program (ADTP). Employing qualitative research with purposive sampling, six ADTP lecturers from various academic disciplines were interviewed. The findings reveal that learning styles vary based on each module and subject. Additionally, the study confirms that, within the VARK model, the visual mode is most preferred by students, who, as millennials, tend to favor digital technology over traditional classroom settings. However, respondents agreed that face-to-face instruction remains the most effective delivery approach. Hands-on activities and presentations also boost student engagement, unlike reliance solely on textbooks, which serves more as a supplement to deepen subject understanding. Besides skill acquisition and positive attitude development, this study contributes to creating a unique learning environment that encourages students to think critically. In conclusion, the study is valuable for academicians, helping them better understand their students and identify the most preferred learning styles. Future studies could compare learning preferences using the VARK model between private and public universities.

Keywords: VARK model, academicians, classroom engagement, American Degree Transfer Program, Sunway University

INTRODUCTION

In recent years, education has shifted from a teacher-centered to a student-centered approach, introducing diverse methods to engage learners in line with the Malaysian Education Blueprint 2015–2025. This blueprint aims to transform the education system to meet global standards and local needs by integrating technology, reforming pedagogy, and enhancing educator development. It emphasizes curriculum, assessment, and teacher professionalism to improve educational outcomes while balancing technological advancement, sustainability, and human well-being [1]. This shift acknowledges that each learner has a unique approach to subjects, recognizing the cyclic process of learning until adequate knowledge is acquired.

The VARK model, introduced by Fleming and Mills in 1992, the model classifies learning styles into Visual, Auditory, Reading/Writing, and Kinesthetic preferences, helping educators adapt their teaching methods to meet the unique needs of each student [2]. This model emphasizes understanding and practical application of knowledge, supporting varied learning preferences to enhance educational quality, as advocated by Prime Minister Datuk Seri Anwar Ibrahim (Th Star, July 2024). Effective teaching involves knowledge and communication, tailored to diverse learning styles [3]. Academicians must adopt various strategies aligned with students' learning styles to ensure efficient classroom learning. The VARK model is instrumental in identifying effective methods for young learners [4]. Diverse learning styles not only improve academic performance but also increase interest in subjects, accommodating individual differences [5].

However, not all students adapt to content using specific techniques, necessitating educators' awareness of individual needs. Educators' awareness of individual learners' needs for different teaching styles is crucial for effective instruction emphasizing the significance of recognizing and accommodating diverse learning styles among students [6]. Studies indicate that learning styles facilitate understanding but are often overlooked in tertiary education, where comprehending learning preferences is crucial [7]. While research on the VARK model is program-specific, it lacks recommendations on preferred teaching techniques, highlighting the challenge for educators to identify learning preferences without a proper directory, leading to potential misperceptions of student engagement [8]. Consequently, it is essential for academicians to assess and adapt to various learning styles, rather than relying on their own preferences.

Research questions

The current study aimed to address the following research questions:

1. What teaching styles do academicians in the American Degree Transfer Program (ADTP) use to foster student engagement in the classroom?
2. Which teaching mode in VARK model is most preferred by the academician?

LITERATURE REVIEW

VARK model

The VARK model is a learning preference assessment tool developed to help individuals identify their preferred learning style within four categories [9]:

1. Visual: Learners who favor visual aids like diagrams, charts, and videos.
2. Auditory: Learners who prefer learning through listening to lectures, discussions, and audio recordings.
3. Reading/Writing: Learners who excel through reading texts, taking notes, and written explanations.
4. Kinesthetic: Learners who benefit most from hands-on experiences and physical activities.

Although the VARK assessment is widely utilized, its validity and reliability in identifying learning preferences remain a topic of debate. Some research, including [10], indicates that VARK categories might not entirely reflect the complexity of individual learning preferences and that individuals may often have multiple preferred learning styles rather than a single one.

The article "I'm Different; Not Dumb: Modes of Presentation (VARK) in the Tertiary Classroom" by [9] explores the use of the VARK assessment tool in higher education settings. Fleming argues that incorporating a variety of teaching methods and presentation styles can better address the diverse learning preferences of college and university students. He suggests that educators use the VARK assessment to identify students' preferred learning styles and implement a range of methods and materials that align with these preferences. Fleming also highlights the limitations of the VARK tool, acknowledging that it may not fully capture the complexity of individual learning preferences and that individuals may have multiple preferred learning styles. He recommends using the VARK assessment as an initial guide to understanding student preferences rather than as the sole basis for teaching strategies.

VARK Model used in Academician- Student Classroom Engagement

As mention by [11] examines the learning preferences of art education students using the VARK model and how these preferences relate to their abilities in art criticism. Conducted with 145 fourth-grade students from the University of Baghdad's Department of Art Education, the study found that the students predominantly favored the kinesthetic learning style. Furthermore, a significant correlation was identified between the students' learning styles and their art criticism abilities, suggesting that those with a kinesthetic preference performed better in practical and hands-on art criticism tasks. This highlights the importance of accommodating diverse learning styles in educational strategies to enhance students' critical skills in art education.

Additionally, [12] study aims to identify the preferred learning styles among students in the Mathematics Department at the University of Mosul using the VARK model. The study found that 44% of the students preferred the reading/writing learning style, 35% preferred the visual style, 13% preferred the kinesthetic style, and 8% preferred the auditory style. It also concluded that there was no significant difference in learning style preferences based on

gender. The findings suggest the importance of using diverse teaching methods to accommodate various learning preferences, enhancing students' motivation and learning outcomes.

A study by [13] explores the relationship between learning styles and academic achievement among Bachelor of Elementary Education (BEED) students at Bukidnon State University. Conducted in December 2023, the study involved 60 students and used a modified VARK questionnaire alongside their General Weighted Average (GWA). The findings revealed that kinesthetic learning was the most preferred style, while the overall academic achievement was rated very good. However, the study found negligible correlations between visual, read/write, and kinesthetic learning styles with academic achievement, and only aural learning showed a significant difference. These results suggest that while students have distinct learning preferences, these preferences do not strongly impact academic performance, highlighting the need for diverse teaching methods and further investigation into other factors affecting academic success.

A research utilizing a VARK questionnaire with 433 students from various faculties was conducted by [14].The findings reveal that all students were unimodal learners, predominantly favoring the Kinesthetic (K) learning style. High achievers preferred the Kinesthetic style, while low achievers leaned towards the Read/Write style. Male students predominantly chose Kinesthetic learning, whereas female students preferred Visual learning. Social science students favored Aural learning, unlike pure science students who preferred Read/Write learning. Significantly, the study concluded that Visual and Kinesthetic learning styles positively and significantly influence academic performance. This suggests that different subjects require tailored learning styles and instructional methods to optimize student potential and success. The research emphasizes the importance of aligning teaching strategies with students' preferred learning styles to enhance academic outcomes.

METHODOLOGY

This qualitative case study aimed to address the research problems and objectives through in-depth interviews and open-ended questions to respond to the research questions. As defined by [15], a case study involves exploring an individual, group, or phenomenon in depth. In this study, the informants were academicians from the American Degree Transfer Program (ADTP) at the School of American Education, Sunway University. In-depth interviews were conducted with six academicians from diverse age groups and backgrounds, selected via purposive sampling to gather insights and clarifications on the VARK model's role in classroom engagement. The selection criteria required that informants be ADTP faculty members with varied teaching backgrounds. Interviews were conducted face-to-face, recorded, and subsequently transcribed. The data was then analyzed through thematic analysis to identify themes and codes addressing the research questions [16] which formed the basis for drawing conclusions.

FINDINGS

The findings of this study are divided into sections encompassing the demographics of informants and subject expertise.

Demographics of Informants

The demographic characteristics of the informants are summarized in Table 1. A total of six informants participated in this study, consisting of two male and four female academicians from the American Degree Transfer Program. All participants are highly knowledgeable in their respective fields, with over 20 years of teaching experience in the program, demonstrating their extensive expertise and commitment to education

Table 1: Demographic of Informants

ID	Gender	Age	Expertise
P1	Male	45	Chemistry
P2	Female	51	Economics
P3	Female	47	Engineering
P4	Female	45	Biology

P5	Female	42	Mathematics
P6	Male	46	Communication

Visual Mode

Visual learning is effective based on subject and between Face to face (F2F) preference.

Based on Table 2 below, all the informants responded to this by admitting that learning and conducting class via visual has its benefit especially in making students understand certain terms, topics and module.

Table 2: Visual Learning Effectiveness by Subject and F2F Preference

	P1	P2	P3	P4	P5	P6
Visual learning is effective based on subject and between F2F preference	Learning via visual has its benefit especially in making students understand certain terms, topics module etc	Theories would be too vast and deep as they have to use their imagination in order to understand them, so having videos or other type of visuals (3D model for atoms) will be very much helpful for students to understand and grasp the knowledge. F2F would be my option because I can explain while the video is played, relating it to the topic lectured and very sure all of them watched it	Visual mode usually stays longer in the mind and it's easier to understand. A diagram will catch the student's attention rather than reading words to understand a concept. F2F is always better as we are able to engage the students better. Online is not too bad either, however you have no control over what is happening at the students end.	Memory retention seems to be better because they relate moving image, colours, sounds etc. to the material, as opposed to printed text alone. A mix of both. F2F for consultations, but online lectures have a tendency to get a full house in terms of attendance.	I make lessons more engaging by using charts, graphs, concept maps, and videos to simplify complex topics and capture students' attention. Face-to-face teaching works best in my class, especially for explaining graphs and calculations, as it allows me to assess student understanding in real time and provide immediate support to those who are struggling.	Online learning can be done in a few formats such as video lectures and live session. Online preparation is time consuming and challenging at times. However as for students it is effective as online learning allows them to repeat and listen to lecture whenever they need, whereas live session help to ask question and clarify doubts. However, as personal opinion lecturer prefers F2F. It also makes no difference as I can still meet my students virtually and clarify academic

						doubts in discussions.

Aural Mode

Comparison of conducting lecture via Face to Face (F2F) and live online session.

Almost all the informants in Table 3.1, believes that Face to Face session is the best method to conduct lecture, although one of the informants does think that online live class is much better as informant gets full attendance and attention from student.

Table 3.1: F2F vs. Live Online Lectures Comparison

	P1	P2	P3	P4	P5	P6
Comparison of conducting lecture via F2F and live online	F2F is the best method to conduct lecture, however P3 thinks online is much better as the respondent gets full attendance by the studnets.	F2F as while delivering the teaching, students can interact and I can identify and rectify if they have any problems compared to online as difficult to observe this aspect	To me F2F will be the best, or it can be replaced with live online however due to connectivity reasons we end up with delayed classes which is definitely not engaging enough.	Online lectures- as above; a full house	F2F lecture is better as my voice and tone is clear. I can also pause and repeat important points anytime. Live online and delayed online – sometimes the voice is not clear due to recording or internet connection	Time consuming as too much of preparation for online. Some student could not follow as there is problem with connectivity.

Traditional lecture during Face to Face session in helping students to remember the module.

Overall response from the informants for this theme based on Table 3.2 below, shows that lectures alone did not do much in helping students neither making them to understand a module.

Table3.2: F2F Lectures and Module Retention

	P1	P2	P3	P4	P5	P6
Traditional lecture (only oral) in helping students remember the module	The oral (lecture only) does not help much in making students understand a module.	Taking notes and from examples provided would be registered in their memory of the lesson taught.	This technique will not be very effective as students mind will start to wander around. Mix mode will be best.	When there are other visuals present in the lecture slides e.g. videos, infographics, printed visuals, a guest lecture.	The traditional lecture can be quite boring and students will definitely not be able to capture what is taught.	F2F is still the best as I can-do hands-on activities and much more. The more students are engaged the more likely they learn and perform.

Read/Writing Mode

Effectiveness of textbook and printed document on self-study.

As for the read/write mode as per the Table 4.1, every informant in the study believed that textbook alone would not be the best material for an effective self-study material however they did agree that other printed material does help too but it is depending on the subjects taught.

Table 4.1: Textbooks vs. Printed Documents for Self-Study

	P1	P2	P3	P4	P5	P6
Effectiveness of textbook & printed doc on self-study	Textbook alone would not be the best material however other printed material does help too but it all depends on the subject	Very effective as the physical form of printing materials would guide them whenever there is a doubt and lesser trouble compared to online materials	this depends on the individual students as some students are good in self studying while rest will need coaching.	Depends on the subject. Heavy theoretical work (like mathematics and sciences)- text books would work but for the arts modules (visual communication, copywriting), text only works for a very small amount as most work has a project output (packaging design mockup/ printed media etc.).	Students prefer printed or online documents and short notes. They generally don't like using textbook	Case study and home work to enhance the understanding of students.

Effectiveness of homework and exercise for students in understanding the module and topic for exam purpose.

Based on the Table 4.2; interview done on the above theme, each of the informants believe that homework would be very effective in getting students understand further on a subject as well as it helps to stimulate students logic and take on a topic further.

Table 4.2: Homework & Exercises for Exam Understanding

	P1	P2	P3	P4	P5	P6
Effectiveness of homework and exercise towards students in understanding the module, topic for exam purpose	Homework would be very effective in getting students understand further on a subject as well as it helps to stimulate students' logic and take on atopic further.	Homework and exercises would be a kind of practice to answer questions not verbally mentioned and to identify the level of understanding for the topics and a kind of preparation to answer the finals exams on what would be the expectation from the lecturers for each questioned asked.	Very important to follow up the lecture with tutorial and assignments or the topic will be easily forgotten	Helps them recall the subject matter sometimes.	Homework and exercise help the students a lot in understanding the topic and prepare for exams.	Extra homework and bring homework usually makes students understand more and accomplishes the self-study time of students.

Kinesthetic

Importance of engaging students in active learning and direct experiment works best in understanding subject.

From the interview conducted in Table 5.1, all the informants agreed that it is important to have hands on as it will make sure the students remember a topic for a long time.

Table 5.1: Active Learning & Experiments for Understanding

	P1	P2	P3	P4	P5	P6
Importance of engaging students in active learning and direct experiment works best in understanding the subject.	It is important to have hands on as it will make sure the students remember a topic for a long time.	To get them to understand the real-life application of the knowledge they have gained and to kind of create an interest towards the subject.	When they are actively involved the event stay longer on their mind.	When you physically do something, the tendency to remember actions are better.	Students are able to relate better and understand what they learn faster using direct experience.	Presentation and ad presentation helps students to be active and has the best hands-on experience

Importance of emphasizing and clarifying ideas through gesture, facial expression and dramatization.

In Table 5.2, informants responded for this question by believing and agreeing that gesture, facial expression and dramatization is essentially important in making the class not only exciting but also makes the memory retention as it also helps students to be vocal and expressive.

Table 5.2: Impact of Gestures, Expressions & Dramatization

	P1	P2	P3	P4	P5	P6
Importance of emphasizing and clarifying ideas through gesture, facial expression and dramatization.	Gesture, facial expression and dramatization is essentially important in making the class not only exciting but also makes the memory retention as it also helps students to be vocal and expressive.	Theories are boring as many students say and difficult to concentrate and understand, therefore with gestures and expressions, active participation can be engaged and to give a kind of understanding to the importance of the	This will definitely get kids more engaged. Especially adding some humor in class will be great.	As above-memory retention is better. Students will associate actions with a term and hence are able to better recall.	It is helpful in expressing yourself to the students. Facial expression and dramatization help to differentiate the tone of expression and highlight on important facts.	Learning cannot be monotone hence facial expression and various gestures gets students to be engaged and understand a module better.

		information delivered for certain topics.				

DISCUSSION AND CONCLUSION

The informants highlighted the importance of creating student interest in the classroom, with many utilizing online tools to engage students, as supported by [17] and . These studies emphasize that varying learning methods can capture students' attention, especially in the digital age, where students are accustomed to absorbing information through technology. Online tools such as social media, Moodle, and Edmodo significantly enhance classroom interaction and collaborative learning. These platforms facilitate two-way communication, allowing students to share ideas, engage in discussions, and collaborate on assignments [18].

As agreed by [19] generation Z students prefer interactive and engaging face-to-face (F2F) learning experiences that incorporate technology and multimedia resources. The findings indicate that generation Z students prefer technology-based teaching methods, such as using mobile devices and social media in the classroom. They value instant feedback and interactive, engaging activities. It is also agreed by [20] that by integrating familiar digital elements into F2F learning, educators can foster a more relevant and effective educational experience for Generation Z.

While students appreciate the use of technology and visual learning, they increasingly prefer eBooks and online reading over traditional printed books. This shift reflects their desire for more accessible, flexible, and interactive learning resources that align with their digital habits. This is further agreed by [21], using social learning tools like WhatsApp helps students communicate and collaborate, supporting reading and writing in a way that matches their tech preferences and improves their learning experience.

Lastly, hands-on activities and presentations, which use kinaesthetic learning, were seen as effective in retaining information, as supported by [22] and [23]. Using kinesics methods in teaching improves classroom dynamics and increases student engagement. It also positively impacts students' academic performance and behavior, aiding their understanding and retention of the material presented in class.

In conclusion, applying the VARK model to different learning styles helps students acquire skills, develop a positive attitude, and grasp knowledge more quickly. This approach fosters a unique learning environment that encourages deeper thinking. Each learning style works best for specific subjects; for example, graphic and engineering students often prefer visual and reading/writing styles, while communication and social science students lean toward aural methods. Understanding the most suitable learning style for each module is essential for lecturers, and while it can be challenging to use multiple styles in one session, instructors typically select the most effective approach based on student performance.

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