

# Perceived Effectiveness of Different Approaches of Studying Practiced by Medical Students

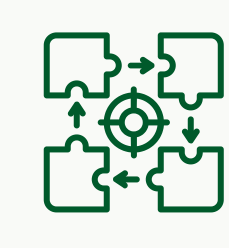
## 1 Introduction

Students worldwide employ a variety of study methods with varying degrees of success. However, no studies have explored the benefits of the strategies adopted or the efficacy of these methods in the UAE.

### Problem Statement:

To assess different studying methods and their perceived effectiveness among pre-clinical and clinical students enrolled in the College of Medicine, University of Sharjah.

## 2 Methodology



### Instrument:

An online self-administered questionnaire with close-ended questions, mostly using Likert Scale. Data collection tools included demographic information, VARK questionnaire, which was modified to be relevant to medical students' studies, and deep, surface, and strategic learning approaches questionnaire. The four modes in VARK are visual (V), Auditory (A), Read (R), and kinesthetic (K).



### Design:

A descriptive cross-sectional study.



### Sample:

Data was gathered from University of Sharjah medical students, excluding foundation year students. The calculated sample size was 400 dependent on 5% marginal error, 50% prevalence then corrected to our limited population to become 300.



### Analysis:

Data analysis was implemented using SPSS 29. The only test used is the Chi-square test. A p-value of  $\leq 0.05$  was regarded as statistically significant.

## 3 Results

### Response Rate:

- A total of 450 questionnaires were filled, yielding a response rate of 55%.

### Relationship between learning approach, perceived effectiveness, and grades:

- Deep and strategic learners spend 3-6 hours of studying on average, while surface learners spend 1-4 hours of studying on average ( $p$ -value=0.002).
- Deep and strategic learning approaches are associated with higher perceived effectiveness and grades compared to surface learning ( $p$ -value<0.001 and  $p$ -value=0.032, respectively).
- VARK learning style did not have any effect on reported perceived effectiveness and grades.

### Study resources, grades, and perceived effectiveness:

- Majority of those mostly using books and question banks reported higher perceived effectiveness ( $p$ -value<0.001).
- Using less than 4 study resources is associated with higher grades ( $p$ -value=0.013).

### Perceived effectiveness and other factors:

- Approximately 86% of those with high grades (>85%) have medium to high perceived effectiveness while 83% of those with lower grades (<80%) have low to medium perceived effectiveness ( $p$ -value<0.001).
- Emotional, financial, mental, social factors, and grades as stressors affecting studies are correlated with low to medium perceived effectiveness among participants ( $p$ -value<0.001).
- High perceived effectiveness was associated with more hours of studying compared to lower perceived effectiveness ( $p$ -value<0.001).
- Nearly 80% of participants with chronic illness reported low and medium effectiveness ( $p$ -value=0.030).

### References

- Chonkar, S. P., Ha, T. C., Chu, S. S. H., Ng, A. X., Lim, M. L. S., Ee, T. X., Ng, M. J., & Tan, K. H. (2018). The predominant learning approaches of medical students. *BMC medical education*, 18(1), 17. <https://doi.org/10.1186/s12909-018-1122-5>
- Kharb, P., Samanta, P. P., Jindal, M., & Singh, V. (2013). The learning styles and the preferred teaching-learning strategies of first year medical students. *Journal of Clinical and Diagnostic Research*, 7(6), 1089-1092. doi:10.7860/jcdr/2013/5809.3090
- Liew, S., Sidhu, J., & Barua, A. (2015). The relationship between learning preferences (styles and approaches) and learning outcomes among pre-clinical undergraduate medical students. *BMC Medical Education*, 15, 44. doi:10.1186/s12909-015-0327-0

## 4 Discussion

- Kinesthetic learning was the most popular VARK learning style, followed by visual, auditory, and reading respectively. This is similar to a research by Liew et al. 2015 and Kharb et al. 2020.
- Given the intricacy of medicine, it was not surprising that the majority of students employed strategic and deep learning techniques. Additionally, females were more of strategic learners than males. This is in line with research carried out by Chonkar et al. in 2018.
- Due to targeted and in-depth study sessions, strategic and deep learners spend more time studying than surface learners.
- Living conditions have no impact on learning style since learning styles should not be the same for all.
- Books and question banks help with learning retention and provide better explanations of concepts, hence, using them was strongly associated with higher perceived effectiveness.

### Limitation:

One question in the questionnaire about scholarship did not ask to specify what kind of scholarship, annual discounts, or a full paid scholarship students had.

## 5 Conclusion

Results showed an increased perceived effectiveness for deep and strategic learners compared to surface learners. Moreover, they achieve higher grades than surface learners. This research proves that study resources have a significant effect on perceived effectiveness and academic achievement. Furthermore, usage of question banks and books has a significant correlation with both high grades and high perceived effectiveness. Workshops should be conducted to advocate for highly effective methods of studying and learning approaches.

