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LEARNING STYLES AND PREFERENCE OF UNDERGRADUATE MEDICAL STUDENTS IN A PUBLIC SECTOR TEACHING UNIVERSITY

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ABSTRACT

Objective: To assess the learning styles of fourth year student in a public sector university

Methods: This cross-sectional study was conducted at department of Ophthalmology Unit-II Dow University of Health Sciences and Civil Hospital Karachi, from January 2013 to June 2014. Professional students during rotation in Ophthalmology were included after taking their consent. A total of 540 students were selected. Learning Styles and preferences were measured on Index of Learning styles (ILS) questionnaires. Learning styles and preferences were measured and data was processed on SPSS Version 15 for Windows.

Results: We included five hundred and forty students Mean age was 20.54 years. Females (82.4%) outnumbered the males (17.6%). All the students belong to 4th year MBBS. In the Active-Reflective domain majority of the students found to be balanced activist . We found that 63.4% students were active learners. In the sensual intuitive domain 58% found to be sensual. In the Visual -verbal domain 90.9 % students found to be visual learners. In these there were balanced visual (31.7%), moderate visual (36.5%) and were strong visual (22.8%). In the Sequential-global domain 68.3 5% were showing sequential preferences with 44.1% balanced, 18.3% moderate and 8.9% strong preferences.

Conclusion: As we know our learners we can plan our lesson accordingly to satisfy yourselves and our learners. This study gives the information and evidence so that making us comfortable to plan our lessons according to the educational needs of our students

Key words: learning, Learning styles, teaching, learning, Medical Students

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INTRODUCTION

Instructional strategies when tailored according to the students learning styles and preferences yield better outcomes in term of students achievements and student's and teacher's satisfaction[1,2]. Learning styles and preferences are the methods that students use for gathering, processing, interpreting, organizing

and thinking about information. Different students prefer different learning styles to acquire knowledge skills and attitude[3]. Although the History of learning styles dated back to the ancient time the empirical evidence is found in the work of Carl Gustav Jung, a Swiss psychiatrist, who gave the idea of two learning styles e.g. "feelers" and "thinkers".[4] Based on Jung's ideas different researcher, thinkers, scholars and educational psychologists developed a battery of questionnaires designed to assess the different dimensions of learners learning styles and preferences[5]. The index of learning styles is an instrument based on Felder-Silverman four dimension preference model. This, well validated , instrument consists of forty-four questionnaires designed to assess the students learning styles and preference on the attributes of 'active-reflective' , 'sensing-intuitive' , 'visual-verbal' and 'sequential-global'.[6].

In this cross sectional survey we will assess the learning styles and preferences of our students by administering the index of learning style quessionairies during their clinical rotation at the department of ophthalmology to tailor the teaching strategies accordingly.

METHODOLOGY

This study was conducted at department of Ophthalmology Unit-II Dow University of Health Sciences and Civil Hospital Karachi, from January 2013 to June 2014. Students of third year and fourth year during their rotation in Ophthalmology were recruited after taking their informed consent and according to the tenet of the declaration of Helsinki . A total of 540 students were selected to fill the index of the learning style questionnaires. Learning styles and preferences were measured on Index of Learning styles (ILS) questionnaires by using online software for this instrument[7]. The complete bio-data of student was recorded on a prescribed Performa.

Statistical analysis:

The data was collected and entered on Statistical Package for Social Science (SPSS) version 15.0 for Windows. Data was analyzed by using descriptive statistics to summarize the frequencies of students in each learning style categories.

RESULTS

We included five hundred and forty students. Response rate was 100 percent.

Mean age was 20.54 years with a mode of 20 years. Females (82.4%) outnumbered the males (17.6%). All the students belong to 4th year MBBS. In the Active-Reflective domain majority of the students found to be balanced activist (table 1). We found that 63. 4% students were active learners. In the sensual intuitive domain 58% found to be sensual (table 2) no strong sensual or intuitive learner was found. In the Visual -verbal domain 90.9 % students found to be visual learners (table 3). In these there were balanced visual (31.7%), moderate visual (36.5%) and were strong visual(22.8%). In the Sequential-global domain 68.3 5% were showing sequential preferences with 44.1% balanced , 18.3% moderate and 8.9% strong preferences (table 4)

DISCUSSION

In this study we found students learning styles and preferences in a public sector university in which students are admitted on merit after going through strict admission criteria. From about 5000 applicants only about 400 are selected. All of

TABLE 1
"ACTIVE OR REFLECTIVE" LEARNERS DOMAIN

Attributes	Frequency	Percent
Balanced Activists	293	54.3
Balanced Reflective	99	18.3
Moderate Activist	49	9.1
Moderate Reflective	99	18.3
Total	540	100.0

TABLE 2
"SENSUAL-INTUITIVE" LEARNERS DOMAIN

Attributes	Frequency	Percent
Balanced intuitive	148	27.4
Balanced sensual	196	36.3
Moderate intuitive	74	13.7
Moderate sensual	122	22.6
Total	540	100.0

TABLE 3
"VISUAL -VERBAL" LEARNERS DOMAIN

Attributes	Frequency	Percent
Balanced visual	171	31.7
Balanced verbal	49	9.1
Moderate visual	197	36.5
Strong visual	123	22.8
Total	540	100.0

TABLE 4
"SEQUENTIAL-GLOBAL" LEARNERS DOMAIN.

Attributes	Frequency	Percent
Balanced sequential	222	41.1
Balanced Global	146	27.0
Moderate sequential	99	18.3
Moderate Global	25	4.6
Strong Sequential	48	8.9
Total	540	100.0

these students are elite and brilliant. Most of the students have outstanding past academic records. Although theses student can cope with any learning situation a learning strategy tailored according to their leering styles and preferences would be an added bonus for them.

A recent study from Taiwan showed that, matching the learning styles of students with the appropriate teaching styles can significantly improve students' reflection levels in a u-learning environment [8]. In our study most of the learners have visual preferences and a significant number of learners are strong visual learner. These learners would face difficulty in gathering information if not presented in a visual format. In a study found from Hong Kong that the most of the students were visual learners and they preferred information when presented in a video format[9]. Most of our students were identified as active learner dislike passive involvement for example traditional didactic lecture[10]. This is the need of the day to make our lectures more interactive and attractive by incorporating visual clues like picture and videos. Pictures and videos nourish visual learners and an interactive lecture fulfills their active nature of learning preference[11]..

In this study sensual learners are dominant over intuitive learners Sensors pay attention to both immediate data from their five senses and from their own direct experiences. They Limit their attention to facts and solid data. They focus on what is immediate, practical and real, and live life as it is rather than trying to change the world. They like logic and tend to pursue things in a clear sequence. Intuitors process data more deeply than sensors and are happy to trust their subconscious and 'sixth sense', gut feel, intuition or whatever you want to call it. They like ideas and inspiration and tend to have a focus on the future, where they will plan to change the world rather than continue to live in the imperfect present[12]. For sensate learners, the most beneficial teaching strategy would be to provide concrete material, such as lecture notes with examples and information that connect to the real world such as what is important to pass the final summative assessments[13]. We found an preference for sequencetila learning in our students these students understand best when information is presented in linear steps that progress logically from one another. In contrast global learners absorb material without connections and then suddenly understand the whole[14]. Integrating concept maps , schemas, flow chatrts in the teaching strategies greatly benefit therse learners[15].

CONCLUSIONS

As we know our learners we can plan our lesson accordingly to satisfy yourselves and our learners. This study gives the information and evidence so that making us comfortable to plan our lessons according to the educational needs of our students

REFERENCES

1. Komarraju M, Karau SJ, Schmeck R R, Avdic A.. The Big Five personality traits, learning styles, and academic achievement. Personality and Individual Differences 2011; 51(4): 472-477.
2. Kidron, Y., & Lindsay, J. (2014). The Effects of Increased Learning Time on Student Academic and Nonacademic Outcomes: Findings from a Meta-Analytic Review. REL 2014-015. Regional Educational Laboratory Appalachia.
3. Khanal L, Shah,S, Koirala S. Exploration of preferred learning styles in medical education using VARK modal. Russian Open Medical Journal 2014; 3: 0305.
4. Cheng G. Exploring students' learning styles in relation to their acceptance and attitudes towards using Second Life in education:

A case study in Hong Kong. Computers & Education 2014; 70:105-115.

5. Saeed N, Sinnappan S . Comparing Learning Styles and Technology Acceptance of Two Culturally Different Groups of Students. Multicultural Awareness and Technology in Higher Education: Global Perspectives 2014; 244.
6. Felder RM, Spurlin J. (2005). Applications, reliability and validity of the index of learning styles. International journal of engineering education 2005; 21(1):103-112.
7. Soloman BA, Felder RM. Index of Learning Styles Questionnaire. Available from: https://www.engr.ncsu.edu/learningstyles/ilsweb.html
8. Hsieh SW, Jang YR, HwangGJ, Chen N S. Effects of teaching and learning styles on students' reflection levels for ubiquitous learning. Computers & Education 2011; 57(1):1194-1201.
9. Cheng G, Wong TL. A Study on Learning Styles and Acceptance of Using Second Life for Learning in a Visual Arts Course. Open Journal of Social Sciences 2014; 2: 22.
10. Miller C, Metz M. (2014). A comparison of traditional and engaging lecture methods in a large, professional-level course . The FASEB Journa 2014; 28(1 Supplement):719-9.
11. Long T, Logan J, Waugh M. (2014, March). Students' Perceptions of Pre-class Instructional Video in the Flipped Classroom Model: A Survey Study. InSociety for Information Technology & Teacher Education International Conference 2014 ; 1:. 920-927.
12. Ayoubi RM, Ustwani B. The relationship between student's MBTI, preferences and academic performance at a Syrian university. Education+ Training 2014; 56(1):78-90.
13. Karimkhanlouei, G. (2014). Learner centered or teacher centered? Medical teachers preferences (A pilot study). International Journal of Learning and Teaching, 6(2).
14. Dumbauld J, Black M, Depp CA, Daly R, CurranMA, Winegarden B., & Jeste DV. Association of Learning Styles with Research Self?Efficacy: Study of Short?Term Research Training Program for Medical Students. Clinical and translational science 2014.5:345-356
15. Ku DT, Shih JL, Hung SH. (2014). The Integration of Concept Mapping in a Dynamic Assessment Model for Teaching and Learning Accounting. Educational Technology & Society 2014; 17(1):141-153.