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Perceptual Learning Style Preferences of Clinical Laboratory Science Students

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Abstract: *This study was conducted to determine the perceptual learning style preferences of the clinical laboratory science students. Descriptive methodology was used where questionnaires were distributed and analyzed using mean and ANOVA. The results revealed that the predominant overall learning style preference of the students was kinesthetic. There was no significant difference in the learning style preferences for visual, auditory, kinesthetic, tactile and individual. However, there was a significant difference in the learning style preference of the students when it comes to group learning.*

Keywords: *Learning Style, Visual, Auditory, Kinesthetic, Tactile, Individual, Group*

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I. Introduction

Learning is the lifelong process of transforming information and experience into knowledge, skills, behaviors and attitudes. Learning is commonly defined as a process that brings together cognitive, emotional and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills, values and world views.[1]

The term learning style refers to the view that different people learn information in different ways. It refers to the concept that individuals differ in regard to what mode of instruction or study is most effective to them. Assessment of learning style typically ask people to evaluate what sort of information presentation they prefer. [2]

There are many reasons to incorporate and understand learning styles in teaching, these includes making teaching and learning a dialogue, responding to a more diverse student body, communicating our message in a multi-facet ways across the range of student learning styles, making teaching more rewarding and ensuring their future by making sure that students with a diversity of learning styles are welcomed and encouraged.[3]

Romanelli, F. et.al (2009) concluded that a better knowledge and understanding of learning styles may become increasingly critical as classroom sizes increase and as technological advances continue to mold the types of students entering higher education. While research in this area continues to grow, faculty members should make concentrated efforts to teach in a multi-style fashion that both reaches the greatest extent of students in a given class and challenges all students to grow as learners.[4]

Reid was the pioneer who proposed the perceptual learning style preferences of ESL/EFL learners to present an overview of various learning-style measures at university level. He said that learners can be divided into six different perceptual learning styles namely: visual, auditory, kinesthetic, tactile, group and individual learners. Visual learner learns well from seeing words in books, on the chalkboard, and in workbooks. Auditory learner learns from hearing words spoken and from oral explanations. Kinesthetic learner learns best by experience, by being involved physically in classroom experiences. Tactile learner learns best when given the opportunity for hands-on experience with materials. Group learner learns more easily when studying with at least one other student, and will be more successful in completing work well when working with others. Individual learner learns more easily when working alone; thinks better and remembers information learned when studying alone.[5]

The way students learn in the classroom usually affects their academic performance in a particular subject. In a classroom with diverse students, teachers must align their teaching style so as to fit the way students learn, hence improving their academic performance. Therefore, this study was conceptualized in order to assess the perceptual learning style preferences of the students enrolled in clinical laboratory science department.

II. Objectives and Problem Statement

This study aimed to determine the perceptual learning style preferences of the clinical laboratory science students of University of Hail. (1) What is the predominant perceptual learning style of the clinical laboratory science students according to year level? (2) What is the overall learning style preferences of the clinical laboratory science students? (3) Is there a significant difference in the learning style of the respondents when then year level is considered?

III. Methods

The respondents in this study were the female students enrolled during the academic year 2016 – 2017 in clinical laboratory science department of University of Hail, KSA. The respondents were the second, third and fourth year level . The perceptual learning style preference questionnaire hypothesized by Reid was used in collecting the data. The questionnaires were distributed to the respondents to be filled up and then were collected, analyzed and interpreted. Mean and one-way Analysis of Variance (ANOVA) were used in the analysis of the data that were collected.

IV. Results

Table 1: Result on the Learning Style Preference of the Respondents

Year Level	Visual	Auditory	Kinesthetic	Tactile	Group	Individual
Second	12.083	12.556	12.778	12.167	12.139	12.000
Third	11.563	12.062	12.188	11.563	10.875	11.437
Fourth	12.533	12.600	12.933	13.40	13.667	11.867

Table 1 presents the results on the learning style preferences of the clinical laboratory science students. It tells us that learning preference of most of the second year level students was kinesthetic and the least preference was individual. Most of the third year level students learning preference was kinesthetic and the least preference was group. On the other hand, most of the fourth year level students learning preference was group and the least preference was individual.

This means that the second and third year level clinical laboratory science students prefer learning through kinesthetic, whereas, the fourth year level prefers learning through group.

Table 2: Result on the Overall Learning Style Preference of the Respondents

Learning Style	Group Mean
Visual	12.060
Auditory	12.448
Kinesthetic	12.672
Tactile	12.299
Group	12.179
Individual	11.836

Table 2 presents the result on the overall learning style preference of the clinical laboratory science. This tells us that respondents learning preference were kinesthetic (12.672), followed by auditory (12.448), then tactile (12.299), group (12.179), visual (12.060) and individual (11.836). This means that majority of the clinical laboratory science students prefer learning through kinesthetic method.

Table 3: Result on the Significant Difference on the Learning Style Preferences

Learning Style	F	Sig.
Visual	0.850	0.432
Auditory	0.347	0.708
Kinesthetic	0.665	0.518
Tactile	3.028	0.055
Group	6.686	0.002
Individual	0.415	0.662

At 0.05 level of significance

Table 3 shows the result on the significant difference on the learning style preference of the clinical laboratory science students at 0.05 level of significance. This tells us that there was no significant difference in visual, auditory, kinesthetic, tactile and individual perceptual learning styles of the students, however, there was a significant difference in the perceptual learning style preference of the clinical laboratory science students when it comes to group method.

V. Discussion

The perceptual learning style preference of most of the clinical laboratory science students as revealed in this study were kinesthetic for the second and third year, whereas the fourth year students prefer group learning. On the other hand, the overall learning preference of the clinical laboratory students was kinesthetic.

According to Roell (2017), a kinesthetic learner needs to be actively *doing* something—moving, engaging the body, using the hands—while learning in order to truly "get" the materials. Those who favor a kinesthetic learning style have had a difficult time learning during traditional, lecture-based schooling. Study strategies for kinesthetic learners includes the following, stand up instead of sitting down, combine your study session with exercise, utilize small movements, use pen, pencil and highlighter use tension and relaxation and get creative.[6]

Tranquillo (2008) mentioned the benefits of kinesthetic learning. He said that there are two different types of students, one of these are students who are striving to gain a deep understanding of the material. It is often the case these they are not the brightest or highest achieving students. For these students, kinesthetic activities offer a way to enhance their understanding. Kinesthetic activities are a time when students can develop their own personal interpretation of a concept and make connections to other ideas and concepts. The statements and actions of students during and activity can very quickly allow the instructor to assess the level of understanding. Regular activity can help create a rapport between the instructor and the students. In the activity, the instructor is just another participant and temporarily is not in the role of teacher. In general, the spirit and energy of the class is increased. Even the class dynamics during lecture become more interactive, with even quiet students making tentative contributions. Perhaps most telling, students were found to be sharing (and demonstrating) the activities with friends outside of class. With some practice, developing an activity becomes an easy and fun exercise for the instructor.[7]

Active learning or kinesthetic learning approach is a solution for those who have trouble paying attention for a long period of time because it requires students to be physically active during the lecture. A correlation study conducted by Lai (2015) et al revealed that there was a positive correlation in how well a student learns more from a KLA or kinesthetic learning activity lectures in comparison to more traditional lectures. [8]

VI. Conclusion

Students have different preferences when it comes to learning. As revealed in this study, the clinical laboratory science students prefer more on the kinesthetic style of learning. Activities that allows the learner to engage in physical activities such as movement should be used in the learning process. In the case of the clinical laboratory science students, the practical activities serve as a good learning avenue for them to learn concepts related to the course. Giving assignments to students to work on will also help them to understand the theory part of the course. However, the students differ in their learning preference when it comes to group learning. Others may prefer to learn by group since they are able to clarify concepts through gathering more information, while, others do not. It is therefore necessary that the teaching style of the instructors match with the learning style preference of the students.

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