Knowledge of learning theory often helps in improving their academic performance and thus helps in mastering the professional skills. The present study was undertaken to determine the learning styles preference of the post graduate medical students of our college to see whether any alteration in the present method of teaching is required or not. The survey was conducted at Mamata Medical College, Khammam in March 2013. Learning styles of the students were determined by Fleming’s VAK questionnaire. Total 233 students participated the survey out of which 136 were male and 97 were female. In the present study, there was no statistically significant preference for learning styles amongst the unimodal learners. Whereas, less number of students preferred the kinesthetic learning style than the visual and auditory styles. Fifty percent of students preferred to learn by multiple sensory modalities in our study.

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Introduction

Learning is acquisition of information and memory is the retention, storage and retrieval of the information. The learners take in and process information in many different ways termed as learning styles and this learning style and their approach to study have a significant impact on both the quality of their learning and their future academic success. When the learning styles of instructors and learners are seriously mismatched, the performance of the students is affected, do poorly on tests, and get discouraged about the courses and in some case shift to other curricula or drop out of college. Therefore, we need to assist our students to identify their learning styles.
in order to build their own confidence and more effectively manage their own learning. Many learning style tests like Dunn, Kolb, Keefe, Gregorc, Felder, Fleming and Soloman etc are available. Fleming’s VAK (visual, auditory and kinesthetic) questionnaire is most widely and preferred. It identifies learners’ preferences for particular modes of information presentation.

The present study was undertaken to determine the learning styles preference of the post graduate medical students of our college to see whether any alteration in the present method of teaching is required or not.

Materials and Methods

The survey was conducted at Mamata Medical College, Khammam (233 students, mean age 25.67 years) in March 2013. Informed consent was taken from the participants. Ethical exemption was awarded by Institutional Ethics Committee. Participation in the study was voluntary and anonymous. Learning styles of the students were determined by Fleming’s VAK questionnaire. The questionnaire consisted of 30 questions (www.eprints.hud.ac.uk/10676/5/CovillILearning.pdf) with A for auditory, B for Kinesthetic and C for visual as options. The VAK questionnaire was selected as it is concise, easy to administer and previously validated7. The students were permitted to omit a question or to choose two or more options if the answers adequately describe their preferred response(s) to the situation presented. Completed questionnaires were collected after 20 minutes. The students were allowed to choose best mode they prefer. The students were categorised as visual, auditory or kinesthetic learner depending on the predominant option they choose. If they preferred single sensory modality then they were considered as unimodal, two preference as bimodal and three as trimodal learners. The scoring algorithm was then applied to identify each student’s modality preferences.

Statistical Analysis

The number of students who preferred each mode of learning was divided by the total number of responses to determine the percentage of students in each category.

Results

Total 233 students participated in the survey, out of which 136 were male and 97 were female. Out of the total students 48.93% students preferred unimodal while the rest of the students (51.07%) preferred multimodal learning style as shown in Figure 1.

Differences in boys and girls learning styles were also evaluated but the results were not statistically significant. (Table 1)

In unimodal learning style, highest preference was given to auditory mode (40.35%), then to visual (31.58%) and then to kinesthetic (28.07%) (Figure 2).

Unimodal group was further categorised in boys and girls (Table 2) and difference in learning style of over all students was evaluated. The results did not show any statistical significance. Of the total students who preferred bimodal style (31.76%), auditory and kinesthetic was preferred by 18.88% students. Only 19.31% preferred trimodal preference.

Discussion

Medical students usually require several skills to be learnt during their training period which includes sensory components such as visual, auditory, reading and writing and kinesthetic. Knowledge of learning theory often helps in improving their academic
performance and thus helps in mastering the professional skills. By knowing the preferred mode of learning of the students, the educator can identify and solve the learning problems more effectively. Knowledge of the students’ learning modes may also provide a focus for developing strategies that are tailored for individual students. It may help the teachers overcome the predisposition to treat all students in a similar way. In this study, we administered the VAK questionnaire to our post graduate medical students to determine their preferred modes of information presentation. Only 48.93% of the students preferred a unimodal learning styles (visual, auditory or kinesthetic). Learning styles usually varies from person to person based on culture, intelligence, nature of studies and other environmental factors. It has been reported that science and engineering students were kinesthetic learners whereas business students were reading/writing learners. In our study, we did not find any statistically significant preference for learning styles amongst the unimodal learners. In fact, less number of students preferred the kinesthetic learning style than the visual and auditory styles. Fifty percent of students preferred to learn by multiple sensory modalities in our study. A study from Saudi Arabia also showed that majority of the students (72.6%) preferred multiple learning styles. Kanchi Shah et al also reported that majority of the students (70.7%) preferred multimodal instructions irrespective of the gender.

Acknowledgement

I would like to thank and acknowledge the immense support of department of Medicine and Psychiatry for the assistance in undertaking the study.

Conflict of interest

The authors declare that they have no conflict of interest.

References

Table 1. Showing sex distribution of learning styles

<table>
<thead>
<tr>
<th></th>
<th>Male (n=129)</th>
<th>Female (n=104)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unimodal</td>
<td>68 (52.71%)</td>
<td>46 (44.23%)</td>
</tr>
<tr>
<td>Bimodal</td>
<td>33 (25.58%)</td>
<td>41 (39.42%)</td>
</tr>
<tr>
<td>Trimodal</td>
<td>28 (21.70%)</td>
<td>17 (16.35%)</td>
</tr>
</tbody>
</table>

Table 2. Showing sex distribution of Unimodal group

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>22</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td>Auditory</td>
<td>27</td>
<td>19</td>
<td>46</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>19</td>
<td>13</td>
<td>32</td>
</tr>
</tbody>
</table>

Figure 1. Learning style preference
Figure 2. Unimodal learning style preference