CASE REPORT

Importance of language skill learning of dental undergraduates: need assessment and remediation in India

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For students entering health education, it is essential to learn the languages that are native to the place of education. The study is undertaken with purpose to assess language skill of undergraduate students at Sharad Pawar Dental College in India so that remediying can be planned at their entry to the new course. This cross-sectional study was done from September 2014 to February 2015. The 157 dental undergraduates were subjected to structured questionnaire that has items on their assessment of three languages i.e., Marathi, Hindi and English. Later, the need assessment to develop language skills of students was done through focus group discussions. Students’ perception about language classes was obtained through interviews. The correct response rate of study participants to test items on three languages ranged from 69.4%–81.05% and 82.5%–91.59% for first and second year, respectively. There were significant differences in response rate among three language item groups. The language classes brought out appreciable changes in their understanding of local languages. Study brought out need to address language gaps to aid to smooth out their transitions in new institute.

Key Words: Cross-sectional studies, India, Language, Learning, Dental students

Introduction

India is home to a culturally diverse population that comes as a unique challenge to health care students in India. The dental students must be skilled enough to render oral health care for patients with different linguistic and cultural backgrounds in clinical settings. Assessment of language gaps among the students and its remediation would be a gateway to effective doctor–patient communication which will reduce patients’ anxiety as well as that of students [1]. To date, there has been limited literature on the language skill learning of health care students as most of the studies focused on developing communication skill which should be a next step to language skill learning. It aimed to assess the language skill of undergraduate students in first and second years of the course, Sharad Pawar Dental College and Hospital, India. Specific objectives are as follows: to assess the first year and the second year dental students’ language skill; to compare students’ responses according to language assessed (Marathi, Hindi, and English); and, to estimate the learner gain from language classes.
Case report

1. Subjects and methods

1) Subjects and ethical approval

The present Institutional Review Board approved prospective study (IRB number: DMIMS(DU)/IEC/2014-15/1095). It was carried out for 82 first and 75 second year undergraduate students of Bachelor of Dental Surgery (BDS) course, Sharad Pawar Dental College and Hospital, India. This study was done from September 2014 to February 2015. The recruitment was based on their voluntary participation. The structure of dental undergraduate BDS program in the University is 4 years' duration followed by 1 year of internship. The first 2 years of the course is designated as preclinical phase while the last 2 years as clinical phase.

2) Need assessment

The 157 participants (99 females, 58 males) were subjected to test questionnaire that has 10 items on assessment of their understanding about three languages, i.e., Marathi, Hindi, and English. English is commonly used as a teaching-learning medium. Their mother tongues were Hindi (60), Marathi (75), and others (22). The other enrolled students included south Indians, Bengalis, Mizoramis, and international students. Later on, the focus group discussions (FGD) were conducted for students to know their attitude towards language learning. Out of total 157 students, 79 students volunteered for FGD that were conducted as per the norms in 10 groups of eight students each. The discussion guide was prepared to obtain the perception on whether there is a need of language learning, their attitude towards language learning, their awareness about languages, the importance of effective communication in health education and its relevance. One session was conducted for each group, students were called at predetermined venues and time, the sessions lasted for 45 to 90 minutes.

3) Remediation

On the basis of outcomes of need assessment, the remediation was planned in the form of conducting languages classes for these students. The 58 students volunteered to attend the language classes. For language classes, the module of 40 hours was prepared selectively for dental students in consultation with language experts. The teaching-learning included training for all the three languages, as English, Marathi, and Hindi, with conversions from English to Hindi, English to Marathi, Marathi to Hindi and vice-versa. The highlights of contents of module were the topics as basic words used in day to day life, disease names and related terms, medical terminologies used by native speakers, basic grammar as noun and pronoun, gender, verbs and tenses, doctor–patient interactions/conversations, and the immediate assessments of students at the end of each topic that included question–answer sessions and group exercises as role plays in Hindi and Marathi. At the outset, the pretest was conducted for the participants and at the end of the module: the posttest and role play were conducted to obtain the learner gain. The pre/post test had 24 items altogether divided into sections to assess the language knowledge of knowing words, sentence making, and their conversions from one language to another. Also, the feedback about the mechanics of languages classes was obtained from the participants. The written and verbal feedback was obtained for components as contents of module, time allotted/duration, instruction methodology and any alterations or suggestions to be made. The items in written feedback were assessed on the basis of 5-point Likert scale. The verbal feedback or the perception towards language classes was obtained through individual interviews. The 32 students volunteered for the interview, interviews were lasted for 20 to 30 minutes.
4) Statistical analysis

The structured questionnaire data was subjected to descriptive analysis. In addition, the differences in responses for three languages were assessed by one-way analysis of variance (ANOVA) and post hoc Sheffe test. The qualitative data obtained through FGD was subjected to thematic analysis. The performance analysis was carried out to assess the performance improvement in students from pretest to posttest and through role plays scores, the absolute learning gain was calculated from the pretest and posttest scores (% posttest score-% pretest score), while the qualitative data was subjected to descriptive and thematic analysis. The qualitative data obtained was subjected to thematic analyses where the responses were assigned coding, which were then organized as per common themes that were further condensed to global themes.

2. Results

1) Need assessment

The correct response rate of study participants to the test items on three languages ranged from 69.4% to 81.05% and 82.5% to 91.59% for first and second year, respectively (Table 1). The ANOVA test revealed the

Table 1. Response Rate of 157 Undergraduates to the Language Test Questionnaire in Sharad Pawar Dental College and Hospital, India

| Response item | 1st year BDS | 2nd year BDS |
|---------------|--------------|--------------|
|               | Correct | Incorrect | No response | Correct | Incorrect | No response |
| A Items on Marathi assessment (item No.) | | | | | | |
| 1 | 65 (78.8) | 2 (2.4) | 15 (18.8) | 67 (90.2) | 1 (1.39) | 7 (8.33) |
| 2 | 63 (76.5) | 3 (3.5) | 16 (20.0) | 63 (83.3) | 3 (4.17) | 9 (12.5) |
| 3 | 42 (51.8) | 14 (17.6) | 26 (30.6) | 59 (79.1) | 9 (12.5) | 7 (8.33) |
| 4 | 45 (55.3) | 12 (14.1) | 25 (30.6) | 55 (73.6) | 7 (9.72) | 13 (16.8) |
| B Items on Hindi assessment (item No.) | | | | | | |
| 1 | 42 (51.8) | 17 (20) | 23 (28.2) | 59 (79.1) | 4 (4.17) | 12 (16.6) |
| 2 | 56 (68.2) | 14 (16.5) | 12 (15.3) | 49 (65.2) | 19 (26.3) | 7 (8.33) |
| 3 | 64 (77.6) | 3 (3.5) | 15 (18.8) | 66 (87.5) | - | 9 (12.5) |
| C Items on English assessment (item No.) | | | | | | |
| 1 | 65 (78.8) | 11 (14.1) | 6 (7.1) | 66 (88.8) | 7 (8.33) | 2 (2.78) |
| 2 | 67 (82.4) | 5 (5.9) | 10 (11.8) | 88 (90.2) | 5 (5.94) | 2 (2.78) |
| 3 | 47 (57.6) | 14 (16.5) | 21 (25.9) | 59 (79.1) | 8 (9.72) | 8 (11.1) |

Data are presented as number (%).

BDS: Bachelor of Dental Surgery.

Table 2. Differences in Correct Response Rate amongst the Three Languages Item Groups in Sharad Pawar Dental College and Hospital, India

| Batch | Language | Mean | SD | p-value* |
|-------|----------|------|----|----------|
| 1st year BDS | Marathi | 0.51 | 0.28 | 0.00 |
|         | Hindi    | 0.48 | 0.26 |   |
|         | English  | 0.73 | 0.34 |   |
| 2nd year BDS | Marathi | 0.63 | 0.23 | 0.00 |
|         | Hindi    | 0.51 | 0.22 |   |
|         | English  | 0.86 | 0.29 |   |

SD: Standard deviation, BDS: Bachelor of Dental Surgery.

*One-way analysis of variance.
significant differences in response rate among three language domains (Table 2). The post hoc Sheffe test revealed that the response rate was poor to Hindi language items followed by Marathi as compared to English language (Table 3). When response rate for Hindi and English items was compared, there were significant differences in both batches (Table 3). For FGD, the perception by 79 students volunteered could be narrowed down to six responses: It is essential to be able to communicate with the patients; Skill of speaking fluently in native language would be helpful to them; We appreciate that our language gaps were identified and we would be thankful if that would be overcome: The languages can be learn as a part of syllabus at the entry of this new course; We would like to attend workshops aimed at improving language; And language classes may be conducted for us. In general, the student also felt a need to learn second languages, for which they suggested that either training workshops or classes may be conducted for them.

2) Remediation

There was definite improvement in the knowledge of the participants with absolute learning gain of 60.77. On the basis of analysis of feedback forms, overall, the students were very satisfied about the contents and the instruction methodologies with which the languages classes were conducted as observed from the rankings obtained in the feedback (Table 4). The interviews reinforced these observations, the responses in interviews from 32 students volunteered were narrowed down as follows: It was a great learning experience; Classes were too much better than our expectations; There were appreciable changes in our communication; The best feature was that the classes were very interactive; And small assignments may be given as homeworks. The students expressed that the language training would be of great help to them in clinics to interact with patients and surrounding people. Interactivity was the best features of the classes. It was also suggested that brief home
assignments may be given to back up the learning.

**Conclusion**

The observations in the present study depicted the need of organization of language training for the students. Majority of study participants were Marathi speaking followed by Hindi. The student performance was poor for Hindi followed by Marathi. Also, the language used by the patients was either Marathi or Hindi: hence the Marathi-speaking students needed to learn Hindi, the Hindi-speakers Marathi, and the other category needed to learn three languages. The English was the universal language to be learnt by students as it is used as teaching learning medium so that their performance for English was satisfactory. The observations revealed in the present study as well as the student break-up showed the dire need of conducting language classes. Also, a majority of dental students felt that effective communication would be an important part of patient care and they would like to attend the training classes or workshops if organized. These findings were at similar to that observed in previous studies [1,2].

On the basis of outcomes of need assessment, the language classes were conducted for the willing students. Based on the learner gain and the perception or feedback obtained, the classes were found to be very fruitful with appreciable changes in their understanding of the languages. Although designed module and the duration allotted brought definite changes in their communication, it was not significant to the level to obtain the fluency. However, students never commented to increase the hours or time allotted for the module (Table 4). Most of the teaching learning occurred as interactive sessions, which students found most beneficial as that led to optimum student involvement and better retention of the knowledge gained. A suggestion was received about giving home assignment to the students, although one cannot ensure about how seriously students will take these assignments and their compliance towards these as they are not the part of academic syllabus. It may be incorporated in next year language classes. The students highly appreciated the fact that the language classes were conducted for them.

The accreditation standards for health education programs include competencies in communications skills; yet, the language training is not the part of formal education, neither curriculum provides significant scope for formal learning and assessment of language skills [2,3]. India is home to a culturally diverse population that poses unique challenges for providing oral health care for patients with different linguistic and cultural backgrounds. The dental students must be trained enough to be aware of cultural nuances in clinical encounters in order to optimize rapport and thus to individualize the assessment and management of patients. For oral health professionals, there is a need to be culturally competent meaning by to develop the skills and approaches to patient care that enables them to function effectively in cross-cultural settings [3,4]. At times, dental students have language skills but, they may not be able to communicate with a patient in that language. Bridging this discrepancy will ensure that the health care needs of multicultural population are better met. For effective patient centred communication, patients’ finding of common ground with dentist is essential, this in turn be associated with enhanced diagnostic efficiency, clinical and ethical decision making, clinical outcomes and utilization of services, fewer diagnostic tests and referrals, increased patient compliance, better recovery and emotional health, reduced patient anxiety and greater patient satisfaction. Conversely, poor communication can result in dissatisfaction, termination of the relation—
ship and enhanced chances of formal complaints and malpractice litigations [4]. The elements of effective patient–provider communication need the effective communication, in turn the better language skill [3]. Adapting the formal instructional tools would lead to more authentic learning, boost student confidence and would lead to more successful encounter with patient. When students arrive newly in the University, their language proficiency needs to be assessed to identify and establish their needs towards language training to plan the instructional supports accordingly. It includes assessment of diversity of learners, background information, differences in styles and other important factors that may impact student learning and knowledge.

In conclusion, identifying and encouraging the development of language skills in healthcare students might be the key to foster more culturally competent health professional. At times, the student may be fluent in specific languages but lack the knowledge of basic medical terminology and thus may need additional training in order to effectively use their language skills. This could be accomplished by conducting student–directed language classes or workshops. It is clear that if language skill training were included in the curriculum or as extracurricular activities, it would be useful and appreciated by the majority of students from health education institute in multilanguage country.

Acknowledgements: None.
Funding: None.
Conflicts of interest: None.

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