University of Malaya Dental Students’ Attitudes Towards Communication Skills Learning: Implications for Dental Education


Abstract: The Ministry of Higher Education in Malaysia has called for the implementation of a soft skills module in all public universities in Malaysia. In response to this and as part of curriculum development efforts for a new integrated program for 2011, a study was undertaken to improve the University of Malaya (UM) Faculty of Dentistry’s communication skills course. One of the study objectives was to investigate dental students’ attitudes towards communication skills learning and the association between their attitudes and demographic and education-related characteristics. A cross-sectional survey—using a self-administered twenty-four-item adapted Communication Skills Attitude Scale (CSAS) that contained both positive (PAS) and negative (NAS) attitude subscales—was carried out targeting all final-year dental students at the UM and the Universiti Kebangsaan Malaysia (UKM). A total of 148 students completed the survey, yielding a response rate of 88.1 percent. Overall, UKM students had significantly more positive attitudes towards communication skills learning (PAS score: mean=48.69, SD=4.48, p<0.001) than UM students (mean=46.03, SD=4.22). There was no statistically significant difference in negative attitudes between the two groups. UKM students with more positive attitudes tended to be female (p<0.05). UM students with more negative attitudes perceived themselves as poor communicators (p<0.05), and UKM students with more negative attitudes tended to have poor English proficiency (p<0.05). This study found that both UM and UKM final-year dental students have positive and negative attitudes towards learning communication skills. These attitudes were significantly associated with certain background and education-related attributes. Outcomes of this study served as a valuable guide in strengthening the communication skills course for the UM’s new, integrated dental curriculum.

Dr. Nor is Lecturer in Community Dentistry, Faculty of Dentistry, University of Malaya; Dr. Yusof is Senior Lecturer in Community Dentistry, Faculty of Dentistry, University of Malaya; and Dr. Shahidan is Dental Officer in Oral Surgery, Ampang Hospital, Kuala Lumpur, Malaysia. Direct correspondence and requests for reprints to Dr. Zamros Y.M. Yusof, Faculty of Dentistry, University of Malaya, Kuala Lumpur 50603, Malaysia; zamros@um.edu.my.

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The importance of communication skills for dental students in the context of dentist-patient relationships has been well recognized. In dentistry, communication skills can be defined as the ability to communicate effectively with patients, use active listening skills, gather and impart information effectively, handle patients’ emotions sensitively, and demonstrate empathy, rapport, ethical awareness, and professionalism. Evidence from the literature has shown that effective dentist-patient communication not only improves dentist-patient relationships and promotes positive health outcomes, but also enhances a patient’s satisfaction with the profession. These result in patients’ being more likely to follow the dentist’s recommendations, having better compliance with treatment, and becoming less anxious. Effective dentist-patient communication also increases patients’ confidence in dentists. As for the profession, effective dentist-patient communication promotes dentists’ job satisfaction, maximizes use of health care resources and the effectiveness of health care services, and helps reduce patients’ complaints.

In Malaysia, the importance of communication skills for dental students was further emphasized with the introduction of a soft skills module by the Ministry of Higher Education (MOHE) in 2006 for all higher learning institutions. Proficiency in communication is the top priority among the seven key soft skills included in the module. In view of this, questions were raised as to whether the current communication skills course at the University of Malaya (UM) Faculty of Dentistry was still relevant not only to meet the MOHE expectations, but also for implementation in an integrated dental program. In response to the MOHE initiative and as part of curriculum development efforts, dental educators at the UM Faculty of Dentistry conducted a study that aimed to improve the current communication skills
course. In addition to curriculum review committee discussions on the communication skills course content, students' feedback on the course was sought. This article documents the dental students' attitudes towards communication skills learning based on the current communication skills course and the recommended changes for the new integrated communication skills course starting 2011. Apart from UM dental students, the study included feedback from dental students of the adjacent Universiti Kebangsaan Malaysia (UKM) Faculty of Dentistry, the second oldest university after UM, for comparison purposes as the latter offered a shorter communication skills course than UM. Comparing students’ reflections on these two courses would prove useful for the curriculum review committee.

Materials and Methods

A cross-sectional study targeting final-year dental students at UM and UKM was carried out using a self-administered, twenty-four-item, adapted Communication Skills Attitude Scale (CSAS). The original CSAS was developed for assessing medical students’ attitudes towards communication skills learning.\(^{15}\) Final-year dental students were chosen because they had completed the communication skills course at their school and were more clinically experienced than junior students. Permission to use the CSAS was obtained from Charlotte Rees, Division of Psychiatry, University of Nottingham, UK. A slight modification to the scale was made in that the term “medical students” was replaced by “dental students.” In this study, it was assumed that learning communication skills was highly applicable to medical and dental students as both groups of students deal closely with patients and colleagues on a daily basis. This assumption made the scale relevant to both.

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Initial assessment of the adapted CSAS to determine its relevance for UM and UKM dental students was carried out prior to the survey. A committee, consisting of three dental faculty members who teach communication skills at UM and six UM fourth-year dental students, was formed to discuss the adequacy and acceptability of the adapted CSAS for use locally. The committee also assessed whether the items on the CSAS sufficiently reflected the students’ attitudes about the communication skills course. The students first took part in a preliminary group discussion to gather their opinions and attitudes towards communication skills learning based on the current course. Then, they were invited to give comments on the adapted CSAS. Following discussions, the committee agreed to remove two items from the scale. Item eleven (“communication skills teaching states the obvious and then complicates it”) was deemed confusing to the students and was removed. Item fifteen (“I find it difficult to trust information about communication skills given to me by non-clinical lecturers”) was also removed as extraneous to the current communication skills course. Following further discussion, the committee agreed on the remaining items and that no items should be added.

The final questionnaire was administered in English and consisted of an introductory letter followed by thirty-three questions organized into two parts. Part A consisted of five demographic (age, gender, ethnicity, parents’ employment status, and use of first language at home) and four education-related questions (teaching language at secondary school, Malaysia University English Test [MUET] result, self-rated academic performance, and self-rated skills as communicator). For the question on skill as a communicator, students were asked to rate their skills on a four-point scale (1=excellent to 4=poor). Part B consisted of the twenty-four-item adapted CSAS (previously twenty-six items) with two subscales: Positive Attitude Subscale (PAS) and Negative Attitude Subscale (NAS). The PAS consisted of thirteen items (items one, four, five, seven, nine, ten, twelve, fourteen, sixteen, eighteen, twenty-one, twenty-three, and twenty-five) representing positive attitudes towards communications skills learning. The scale had been found to possess satisfactory internal consistency (\(\alpha=0.873\)) and test-retest reliability (intraclass correlation=0.646, \(p<0.001\)). The NAS consisted of eleven items (items two, three, six, eight, thirteen, seventeen, nineteen, twenty, twenty-two, twenty-four, and twenty-six) representing negative attitudes towards communication skills learning. This subscale also possessed satisfactory internal consistency (\(\alpha=0.805\)) and test-retest reliability (intraclass correlation=0.771, \(p<0.001\)).\(^{16}\) The two items removed were on the NAS.

The twenty-four-item questionnaire was accompanied by a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Overall, two scores could be determined from the adapted CSAS: the mean PAS and NAS scores. These were achieved by summing the scores of the thirteen PAS and eleven NAS items, respectively, and dividing them by the number of items in each scale. The range
of scores was from 13 to 65 for the PAS and 11 to 55 for the NAS. The highest mean or median score would indicate stronger attitude.

Pre-testing of the adapted CSAS involved another six UM fourth-year dental students, who were asked to identify potential problems associated with the clarity, understanding, and appropriateness of the language and instructions. By doing pre-testing, it was possible to determine whether students understood the language and content of the questionnaire and that the questions were relevant to students and their clinical perspectives prior to the actual survey. Following pre-testing, small changes were made to the questionnaire before it was finalized.

At the UM, the questionnaires were distributed during a lecture, and at the UKM, they were administered during a seminar. Interviews with several academic staff members at both universities were conducted to gather information on their communication skills courses. This included teaching methods, times of delivery, and assessment techniques.

Data were analyzed using SPSS version 16.0. Exploratory data analysis was conducted to establish the distribution of continuous variables. Descriptive statistics were used to describe demographic and education-related variables of the total sample and then the UM and UKM data separately. Univariate statistics (Mann-Whitney Z and chi-squared statistics) were used to test for differences in demographic and education-related characteristics between the two groups of students. Parametric (independent t-test and one-way ANOVA) and non-parametric (Spearman’s r, Mann-Whitney Z, and Kruskal-Wallis) statistics were used to assess relationships between dependent (PAS and NAS scores) and independent (demographic and education-related characteristics) variables for UM and UKM students separately. Regression analyses were used to determine significant predictor(s) for positive and negative attitudes for both schools. Ethics approval for the study was obtained from the UM Faculty of Dentistry ethics committee.

Results

Reliability assessment of the PAS and NAS showed both subscales possessed high internal reliability. Cronbach’s α for the PAS was 0.86 (intraclass correlation=0.839, p<0.001) and for the NAS was 0.71 (intraclass correlation=0.534, p<0.001). Of the 168 final-year students, 148 (UM: 68/72, 94.4 percent; UKM: 80/96, 83.3 percent) completed the questionnaire for a response rate of 88.1 percent. Table 1 shows the frequency distribution of demographic and education-related variables of the sample by dental school.

The students’ ages ranged from twenty-three to twenty-six years (UM: median age=24 years, interquartile range=23 to 24 years; UKM: median age=23 years, interquartile range=(0) (Table 1). The majority of the students were female (UM: 69.1 percent, UKM: 88.7 percent; p<0.05) and Malays (71.6 percent; p<0.001) and came from a non-manual socioeconomic background (62.8 percent). Most UM (82.4 percent) and UKM (92.5 percent) dental students had Malay as their main teaching language in secondary school. Nearly all of the UM students (92.5 percent) and half of the UM students (50.0 percent) spoke Malay at home. The majority of the students achieved Band 3 to 4 in their MUET examination. However, about one-fifth of the UM students (20.6 percent) achieved Band 5 to 6 compared to the UKM students (6.3 percent). Band 1 indicates the lowest score, and Band 6 the highest.

When the students were asked to rate themselves academically, a majority of the UM (82.4 percent) and UKM students (80.0 percent) rated themselves as average, while a small minority of the UM (17.6 percent) and UKM students (18.8 percent) rated themselves as good. For their self-reported ability as a communicator, the students of both schools perceived themselves as average (73.6 percent), good (22.3 percent), and excellent communicators (2.0 percent).

Analysis of the data on the students’ attitudes towards communication skills learning showed that both groups of students possessed positive and negative attitudes towards communication skills learning. Overall, the UKM students had higher mean PAS score than the UM students (UKM: mean PAS=48.69, SD=4.48; UM: mean PAS=46.03, SD=4.22) whose difference was statistically significant (p<0.001) (Table 2). As for the individual PAS items, the UKM students had significantly higher mean or median scores on nine out of the thirteen items involving more than two-thirds of the PAS items (69.2 percent). In terms of negative attitudes towards communication skills learning, although the UKM students had significantly higher median scores on two out of the eleven NAS items (18.2 percent), no overall statistical significant difference was observed between the UM and UKM dental students (UM: mean NAS=30, interquartile range=27 to 32; UKM: mean NAS=30, SD=2.34; p=NS) (Table 2).
Bivariate statistical analysis was conducted to ascertain the relationships between the scores on the PAS and NAS of the UM and UKM dental students and their demographic and education-related characteristics. For the UM students, of the relationships explored between the mean PAS score (dependent variable) and the nine independent variables, only one (1/9, 11.1 percent) showed a trend towards statistical significance at p=0.05. Students who perceived themselves as either good or excellent communicators had a higher mean PAS score (mean=47.63, SD=5.20) than students who perceived themselves as either poor or average communicators (mean=45.54, SD=3.79; p=0.084). There was no statistically significant relationship between eight other independent variables and the mean PAS score. No significant correlation was found between the mean PAS score and respondents’ age (r=-0.119, p>0.05). This suggests that as age increased, mean PAS score decreased. However, the trend was not statistically significant.

Of the relationships explored between the median NAS score (dependent variable) and the nine independent variables, one (11.1 percent) was found to be statistically significant at p=0.001. Students who perceived themselves as either good or excellent communicators had a higher median NAS score (mean=73.91, SD=8.77) than students who perceived themselves as either poor or average communicators (mean=68.72, SD=6.31; p=0.012). There was no statistically significant relationship between seven other independent variables and the median NAS score. No significant correlation was found between the median NAS score and respondents’ age (r=0.119, p>0.05). This suggests that as age increased, median NAS score increased. However, the trend was not statistically significant.
to be statistically significant at p=0.05. The median NAS score for the UM students was higher in students who rated themselves as poor to average communicators (median=31.0, interquartile range=28 to 32) compared to students who rated themselves as good to excellent communicators (median=27.0, interquartile range=24 to 30). The difference was statistically significant (p<0.05). There was no statistically significant relationship between eight other independent variables and the median NAS score.
The median NAS score did not correlate significantly with respondents' age ($r=0.031$, $p>0.05$).

For the UKM students, of the relationships explored between the mean PAS score (dependent variable) and the nine independent variables, one (11.1 percent) was found to be statistically significant at $p=0.05$. The mean PAS score was significantly higher among females (mean=49.14, SD=4.32) compared to males (mean=45.11, SD=4.34, $p<0.05$). There was no statistically significant relationship between eight other independent variables and the mean PAS score. Similarly, the mean PAS score did not correlate significantly with respondents' age ($r=-0.168$, $p>0.05$).

Of the relationships explored between the mean NAS score (dependent variable) and the nine independent variables, one (11.1 percent) was found to be statistically significant at $p=0.05$. The mean NAS score for the UKM students was higher in students with poor (Band 1 to 2) MUET results (mean=32.50, SD=0.71) than students with average (Band 3 to 4) MUET results (mean=30.11, SD=2.29) and students with good (Band 5 to 6) MUET results (mean=27.40, SD=1.52). The difference was statistically significant ($p<0.05$). There was no statistically significant relationship between eight other independent variables and the mean NAS score. Similarly, the mean NAS score for the UKM students did not correlate significantly with respondents' age ($r=0.069$, $p>0.05$).

When the significant variable “gender” for the UKM and the variable “self-rated ability as communicator” for the UM, which displayed a trend towards significant relationship, were analyzed using regression analysis with mean PAS scores as the dependent variable respectively, the variable “gender” for the UKM was significantly associated with PAS scores. The variable “gender” was the biggest predictor for positive attitudes towards communication skills learning for the UKM students (Table 3). When the significant variables “self-rated ability as communicator” for the UM and “MUET results” for the UKM were analyzed using regression analysis with median and mean NAS scores as dependent variable respectively, both variables were significantly associated with NAS scores. Both variables seemed to be the main predictors for negative attitudes towards communication skills learning for the UM and UKM students, respectively (Table 3).

### Discussion

Despite a substantial amount of literature relating to communication skills of predoctoral dental students, there is a dearth of evidence on their attitudes towards communication skills learning. Widespread emphasis on the importance of communication in medical and dental students has made studies on medical students’ attitudes towards communication skills learning to be of relevance to dental students.

This study used an adapted CSAS whose original version was developed and tested by Rees et al. and Rees and Garrud, enabling it to be relevant for dental students. Although the NAS items of the adapted CSAS had been reduced from thirteen to eleven, its ability to evaluate negative attitudes towards communication skills learning among dental students of both schools remained high. This is because measurement of central tendency for NAS scores did not rely solely upon NAS total scores but was based on mean and median NAS scores. Furthermore, reducing the NAS by two items seemed to have little impact on its reliability. According to Kline, although $\alpha$ value of 0.8 is considered appropriate for an internal consistency rating of a scale, $\alpha$ value below 0.7 could sometimes be deemed realistic particularly for a scale with psychological constructs such as the NAS. Therefore, the lower $\alpha$ value of the NAS (0.71) in this study could be considered acceptable. This suggests that the adapted CSAS is reliable for measuring dental students’ attitudes towards communication skills learning.

The results of the study showed that dental students of the UM and UKM possessed both positive and negative attitudes towards communication skills learning. This finding was comparable with the outcome from a previous study on a group of dental students. The results of the study showed that dental students of the UM and UKM possessed both positive and negative attitudes towards communication skills learning. This finding was comparable with the outcome from a previous study on a group of dental students.

| Table 3. Regression analysis: PAS and NAS as dependent variables by dental school |
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|                      | PAS Sig. Level | NAS Sig. Level |
| UM                  | Constant          | 0.000           | 0.000          |
|                     | Ability as communicator | NS             | $p<0.05$      |
| UKM                 | Constant          | 0.000           | 0.000          |
|                     | Gender            | $p<0.05$        |               |
|                     | MUET results      |                 | $p<0.001$     |

**PAS:** Ability as communicator: whether students have good to excellent self-reported ability as communicator. **Gender:** whether students are female.

**NAS:** Ability as communicator: whether students have poor to average self-reported ability as communicator. **MUET results:** whether students have poor MUET results. **Significant level $p=0.05$; NS=not significant**
students from two medical schools in the United Kingdom.\textsuperscript{16} Comparison of mean PAS scores of the two schools indicated that mean PAS score for the UKM students was significantly higher than that for the UM students. In other words, the UKM students had more positive attitudes towards communication skills learning than the UM students.

The significant difference in positive attitudes between the UM and UKM students could be attributed to several factors. One could be differences between the two schools’ communication skills courses, which differ in terms of scope, timing, and time spent in the learning process. At the UKM, the communication skills course, introduced in 2002, forms part of a six-week Introduction to Clinical Dentistry module for third-year students. The course includes a one-hour introductory lecture on dentist-patient communication followed by a two-hour role-play session in which students conduct interviews with simulated patients in front of their peers. Following the role-play, the students receive feedback on their communication skills and suggestions for improvement. The session is facilitated by a lecturer.

At the UM, the communication skills course is more extensive and stretches over the five-year program. In total, students participate in twenty-five hours of learning time across the five years. The learning process encompasses a range of methodologies, including a three-session problem-based learning session on effective communication in year one; a one-hour didactic lecture on dentist-patient relationships in year two; a video presentation, role-play, interview with real patients, and case presentation in year three; a home interview and presentation in year four; and a one-hour lecture on communication and interpersonal relationship in year five.\textsuperscript{19} Despite this comprehensive course, the process has not promoted higher positive attitudes towards communication skills learning among the UM students compared to the less extensive course at the UKM. It may be that the lengthy exposure to communication skills learning at the UM, particularly in the clinical years when students were more concerned with acquiring clinical competence, had caused them to lose some interest. This possible explanation is suggested by a study that found students’ attitudes towards learning could become negative as a result of prolonged teaching.\textsuperscript{20} However, further study of the effect of prolonged exposure to the course is recommended.

The significantly higher mean PAS score for the UKM students could also be due to the influence of gender on attitude. Female gender was significantly associated with the mean PAS score for the UKM students (p<0.01). Although the score of UKM female students was significantly higher than the males’, the females students’ better attitudes towards communication skills learning are consistent with earlier studies that found a similar trend.\textsuperscript{12,16,20} Furthermore, female students have been shown to have a greater affinity for collaborative models of doctor-patient relationship and are more likely than male students to appreciate the science of dentist-patient communication.\textsuperscript{21} It may be that the art of communication comes more naturally for the female students. This suggestion is supported by a study by Aspegren\textsuperscript{22} who found that male students did not regard communication skills learning as highly as their female counterparts and were slower in the learning process. However, a study in Nepal on a group of medical students found no significant association between gender and positive attitudes towards communication skills learning.\textsuperscript{23}

Age differences in attitude have been found in two studies in which younger students had significantly better attitudes towards communication skills learning than older students.\textsuperscript{16,24} Our study suggested a similar difference because the significantly higher mean PAS score for the UKM students could be related to their significantly lower mean age than the UM students. However, this finding contradicts that from a study by Rees and Garrud\textsuperscript{17} in which mature students had more positive attitudes towards communication skills learning than younger students. A study by Wright et al.\textsuperscript{25} found no difference between age of students and attitudes towards communication skills learning.

Regarding the students’ negative attitudes towards communication skills learning, there was no statistically significant difference in negative attitudes between the UM and UKM students. In other words, the two sets of students had equally negative attitudes towards communication skills learning. Both sets agreed they found it difficult to take communication skills learning seriously and perceived the course to be less important during the clinical years when they would be familiar with patients. Some students might take communication skills learning for granted, as there was no specific examination on the subject. Some thought that their ability to perform well in the final examination was more important than to communicate well with patients. All these findings were consistent with other studies on a similar topic.\textsuperscript{16,17,20}

As far as the individual school is concerned, the UM students who rated themselves as good to
excellent communicators had a higher mean PAS score than the students who rated themselves as poor to average communicators (the difference was approaching significant, p=0.084). Similarly, the UM students who rated themselves as poor to average communicators had a higher mean NAS score than the students who rated themselves as good to excellent communicators (p<0.05). This finding suggests that the UM students who perceived themselves as good communicators tended to have better attitudes towards communication skills learning and vice versa. One possible explanation is that those students able to communicate well were more confident and more willing to participate in the various activities and show their talent in communication. They would also tend to find the course more enjoyable. This finding is consistent with findings from studies involving medical students. However, differences between studies were also observed. It has been suggested that students with poor communication skills are more likely to value the opportunities offered by communication skills courses. This is based on the finding that students who had exceptional doctor-patient communication skills regarded communication skills learning as easy, common sense, and not critical as there was no examination on the subject.

As for the UKM students, those who had progressively poor results in the Malaysian University English Test (MUET) had progressively higher mean NAS scores. The difference was statistically significant (p<0.05). This finding suggests that students with poor English proficiency may view learning communication skills as very discouraging and therefore demonstrate more negative attitudes. This comes as no surprise since the main teaching and learning language in higher education in Malaysia is English. This is also true for most communications between students and patients in the clinic. As a result, students with a poor command of English may feel inferior and less confident when communicating in English compared to students with a good command of English. They tend to regard the course less favorably as they are less able to express their thoughts and fully participate in class activities.

The evidence from this study suggests that the future UM communication skills course must take into account predictors for students’ attitudes towards communication skills learning. At the UM, programs that seek active participation of both genders aimed at enhancing students’ self-esteem and confidence in communication would not only promote the effectiveness of the communication skills course but also improve dentist-patient relationships and self-satisfaction.

During the recent UM dental faculty curriculum review for a new integrated dental program for 2011, it was recommended that some aspects of the communication skills course be integrated into other modules. For example, to encourage effective dentist-patient communication in Malaysian multiethnic societies, intercultural communication competence was recommended during community-based assignments. Undertaking community-based projects in multiethnic communities would not only allow students to learn the effects of culture on oral health trends and needs, but also gain personal experience in intercultural communication and empowerment. Apart from community-based project outcomes evaluation, recommended assessment includes a lecturer’s formative evaluation of students’ interpersonal and intercultural relationships with members of the community.

In the clinic, greater emphasis will be placed in the history-taking exercise. Assessment will be carried out in the general dental practice clinic and include patients’ feedback on the student’s communication skills as part of a formative assessment. Students who are weak in English would be paired with colleagues who are fluent. The behavioral science module, albeit unchanged, will be shifted towards early exposure, especially on topics related to managing fears and anxiety. In this module, students will be exposed to hands-on practical exercises including emotion-handling skills as one of the ways to promote rapport and overcome anxiety. Despite the longer exposure of the UM students to communication skills learning, most of the course content will remain unchanged. It was decided that a thorough study involving UM dental students for all years will be conducted before any major changes to the course content are made.

### Conclusions

This study found that UM and UKM final-year dental students have both positive and negative attitudes towards communication skills learning and these attitudes are associated with their background and education-related attributes. In this study, positive attitudes towards communication skills learning were associated with students who were good or excellent communicators at the UM and female
gender at the UKM. Negative attitudes towards communication skills learning were associated with students who were poor or average communicators at the UM and poor in English proficiency at the UKM. These findings served as a valuable guide towards improving the communication skills course for the new integrated dental program for the UM.

REFERENCES