# A comparison of clinical communication skills between two groups of final-year medical students with different levels of communication skills training

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## Abstract

### Background

Training in communication skills is prominent in many undergraduate medical programmes. In South Africa, training in this highly complex skill is developing rapidly, especially against the backdrop of a multilingual and multicultural society. Little work has been done locally to evaluate which training works best in our context. In 1999, the Stellenbosch University Faculty of Health Sciences introduced a new curriculum that included considerably more communication skills training. The aim of this study was to assess and compare the communication skills used in the consultations of two groups of final-year medical students who had different levels of communication skills training in order to make recommendations on appropriate changes in this training.

### Methods

Standardised doctor-patient interviews performed by students during the final-year examinations in 2003 and 2004 were videotaped. These were assessed by two independent, blinded evaluators using an abbreviated version of the Calgary-Cambridge communication guide for skills not done (0) and done (1). The data was analysed using STATISTICA 7.

### Results

A total of 161 interviews were analysed. Both groups performed well (mean = 1) in listening to the opening question, encouraging the patients to tell their story, and demonstrating appropriate non-verbal behaviour. However, ending the session by summarising and clarifying the plan was poorly performed (mean = 0.4). The 2004 group was statistically significantly better in structuring the consultation by using signposting (p value = 0.02).

### Conclusion

There are a number of influences on the effectiveness of communication skills training, including issues around language, culture and gender, student attitudes, the significance of communication skills training in the programme and, most importantly, the integration of this training into the curriculum as a whole. Merely adding more time to communication skills training does not seem to be the answer. Incorporating a wider range of training methods is also important. The results of this impact study acted as an impetus for innovative curriculum development in our faculty, leading to the development of a comprehensive clinical model and a “golden thread” for communication skills in the curriculum to ensure the longitudinal integration of communication skills.

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## Introduction

Internationally, communication skills training is a prominent feature of undergraduate medical curricula. It has been the third largest topic of articles in international medical education journals in the past 10 years.[1,2] Communication skills are important because effective communication is the hallmark of a good doctor-patient relationship. The benefits of good communication in the consultation have been widely recognised to include increased patient satisfaction, better adherence to treatment and improved patient outcomes.[3,4]

Communication skills can be taught effectively by portraying deficiencies in communication between the doctor and the patient, demonstrating the skills, providing opportunities to practise the skills, followed by constructive feedback on performance.[5] In the medical curriculum in South Africa, communication skills training is mainly the responsibility of Family Medicine departments. There are no publications to suggest which communication skills training works best in the South African context, and whether this training does in fact make a difference in the outcomes of our medical graduates.

In 1999, a new medical curriculum was introduced in the Faculty of Health Sciences, Stellenbosch University, South Africa, based on the primary healthcare approach and focusing training on the health needs of the country. The new curriculum incorporated considerably more communication skills training than the old curriculum, in which there were only two lectures in year 5 and a two-week Family Medicine practical rotation in year 6.

In the second year of the new curriculum, students are introduced to communication skills as part of a multidisciplinary module of clinical skills, including introductory lectures, practical workshops demonstrating specific skills, and role plays. This is followed by practical Family Medicine rotations throughout the following four years, totalling 11 weeks. During these rotations, communication skills are taught using role plays with standardised patients and feedback, as well as video playback of consultations with real patients. The content of the training progresses through the years, with an introduction to the skills in the Calgary-Cambridge Guide in year 2 and integration of the first and second half of the consultation in year 3, culminating in special skills, such as breaking bad news and basic motivational interviewing in the final year.[5,6] We used the Calgary-Cambridge observation guide as the basis of our training and assessment in both the old and new curricula.[7]

The aim of our study was to assess and compare the clinical communication skills of two groups of final-year medical students who had different levels of communication skills training in their undergraduate curriculum. The purpose was to make recommendations on changes in clinical communication skills training for the future.

**Table I:** Communication skills and results

| | 2003 | | 2004 | | 2003 Total | 2004 Total |
|---|---|---|---|---|---|---|
| **Data** | **F** | **M** | **F** | **M** | | |
| 1 Introduces self | 0.950 | 0.980 | 0.976 | 0.931 | 0.966 | 0.958 |
| 2 Listens question | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 3 Negotiates agenda | 0.800 | 0.857 | 0.762 | 0.621 | 0.831 | 0.704 |
| 4 Encourages story | 0.975 | 1.000 | 1.000 | 1.000 | 0.989 | 1.000 |
| 5 Encourages express fears | 0.800 | 0.776 | 0.881 | 0.862 | 0.787 | 0.873 |
| 6 Explores ideas | 0.675 | 0.755 | 0.714 | 0.621 | 0.719 | 0.676 |
| 7 Determines effect on life | 0.900 | 0.959 | 0.929 | 0.966 | 0.933 | 0.944 |
| 8 Determines expectations | 0.600 | 0.735 | 0.619 | 0.483 | 0.674 | 0.563 |
| 9 Demonstrates non-verbal behaviour | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 10 Uses facilitation | 0.725 | 0.816 | 0.786 | 0.931 | 0.775 | 0.845 |
| 11 Expresses empathy | 0.800 | 0.857 | 0.905 | 0.862 | 0.831 | 0.887 |
| 12 Uses signposting | 0.600 | 0.714 | 0.905 | 0.690 | 0.663 | 0.817 |
| 13 Uses simple language | 0.975 | 0.959 | 1.000 | 0.897 | 0.966 | 0.958 |
| 14 Assesses starting point | 0.900 | 0.898 | 0.976 | 0.897 | 0.899 | 0.944 |
| 15 Asks want to know | 0.725 | 0.571 | 0.690 | 0.552 | 0.640 | 0.634 |
| 16 Uses chunk/checking | 0.875 | 0.837 | 1.000 | 0.862 | 0.854 | 0.944 |
| 17 Negotiates acceptable plan | 0.850 | 0.735 | 0.762 | 0.828 | 0.787 | 0.789 |
| 18 Summarising and clarifies | 0.550 | 0.408 | 0.500 | 0.379 | 0.472 | 0.451 |
| 19 Safety-netting | 0.850 | 0.714 | 0.905 | 0.759 | 0.775 | 0.845 |
| 20 Attends to timing | 0.925 | 0.898 | 0.929 | 0.897 | 0.910 | 0.915 |
| **Number of students** | 40 | 49 | 42 | 29 | 89 | 71 |

## Methods

Standardised doctor-patient interviews form part of the final examinations in Family Medicine and these were videotaped in the December examinations of 2003 and 2004 with the informed consent of the students. Half of both classes participated in the December examinations, as the other half completed their Family Medicine examinations in April. Simulated patients were used for the interviews, using two clinical problems (one each per standardised patient) for each year group. The same scenarios were used for both year groups for standardisation of the study. This did not give any advantage to the 2004 group, since they were unaware that such standardisation would be used.

A standardised assessment tool was developed by the researchers, by adapting the Calgary-Cambridge communication guide.[7] The instrument was piloted by testing it during student training sessions, and adapted to finally include 20 core clinical communication skills, listed in Table I. Two independent evaluators (not linked to the department or faculty and not familiar with our training) assessed each of the videotaped interviews of the two groups of students by evaluating them for communication skills not done and done, scoring 0 and 1 respectively. They were blinded in that they did not know into which year group the students fell.

All the data were captured on an Excel sheet. The mean scores from each evaluator were rounded to the higher integer to yield a score for each of the predetermined twenty skills being assessed. The scores were averaged for men and women and a mean score was calculated for each year, giving a numerical rate for the number of students who performed the skill in each category. Differences between the years and sex were investigated with chi-square tests.

The 20 defined skills were then grouped to represent four parts of the consultation process, namely **initiating the session, gathering information, structuring the consultation,** and **explanation and planning;** and a mean score was derived for each part of the

process. These four variables were examined for differences between the two years by non-parametric testing using the Mann-Whitney or Kruskal-Wallis tests. The data were analysed by the Centre for Statistical Consultation at the University of Stellenbosch, using STATISTICA 7. A significance level of $\alpha = 0.05$ was used in all the tests. No qualitative analysis was done.

Permission to conduct the study was obtained from the Faculty Research Subcommittee and from the Chairpersons of the MBChB Programme Committee and the Department of Family Medicine. The students signed informed consent forms. The taped interviews were anonymous and the evaluators were blinded to the year of the student.

## Results

A total of 161 interviews were analysed by each of the reviewers, 89 of which were 2003 students and 72 of which were 2004 students. The sample included half of each class, as the other half of the class took examinations at the end of the previous semester. See Table II for the composition of the classes, as well as information on the sample in terms of the female-male distribution and class totals, demonstrating the comparability between the sample and the total classes.

Table I: (see methodology section) also shows the mean score for each of the skills measured – overall and differences between the sexes and years.

When comparing the males and females in both years, the females had a higher mean score for **safety-netting** (p value = 0.02). In 2003 there were no significant differences between the male and the female students for any of the components assessed. Figure 1 shows the skills in which there were statistically significant differences between males and females in the 2004 class.

In both years, the students scored well in the categories of **initiating the session** and **building the relationship**. All the students in both groups achieved high scores in the categories of **listening to the opening question**, **encouraging the patients to tell their story**, and **applying appropriate non-verbal behaviour** (mean = 1). The skills that appeared to be poorly performed (mean = 0.4 in both groups) were **ending the session by summarising and clarifying the plan**. Figure 2 demonstrates the performance of the 20 communication skills using the mean values for the different groups.

The only statistically significant p value between the two groups, where the 2004 group was better (p value = 0.02), was noted in **structuring the consultation by using signposting** to facilitate progression in the interview.

No statistical differences were found in the performance in the four parts of the consultation, namely **initiating the session**, **gathering information**, **structuring the consultation**, and **explanation and planning**.

## Discussion

The results of the study showed that the students did well overall, especially in the first half of the consultation, where three of the skills were consistently demonstrated by both groups. The only communication skill that students failed to demonstrate 50% of the time was **ending the session by summarising and clarifying the plan.** This has also been shown to be a weak area in the second half of the consultation.[8] The statistically significant difference between the two groups in **structuring the consultation by using signposting** (to facilitate progression in the interview) may indicate that more extensive communication skills training can influence specific skills as opposed to inherent or generic communication skills. The fact that an exam situation was used to review the students' communication skills may also

**Table II:** Demographic analysis of the 2003 and 2004 classes and samples

| Class | Males (%) | Females (%) | Total |
|---|---|---|---|
| 2003 Total | 93 (52.8%) | 83 (47.2%) | 176 |
| 2003 Sample | 49 (55%) | 40 (45%) | 89 |
| 2004 Total | 61 (42.4%) | 83 (57.6%) | 144 |
| 2004 Sample | 31 (43%) | 42 (57%) | 72 |

**Figure 1:** Histogram of skills where means between male and female students differed significantly in the 2004 group, with the p values indicated.

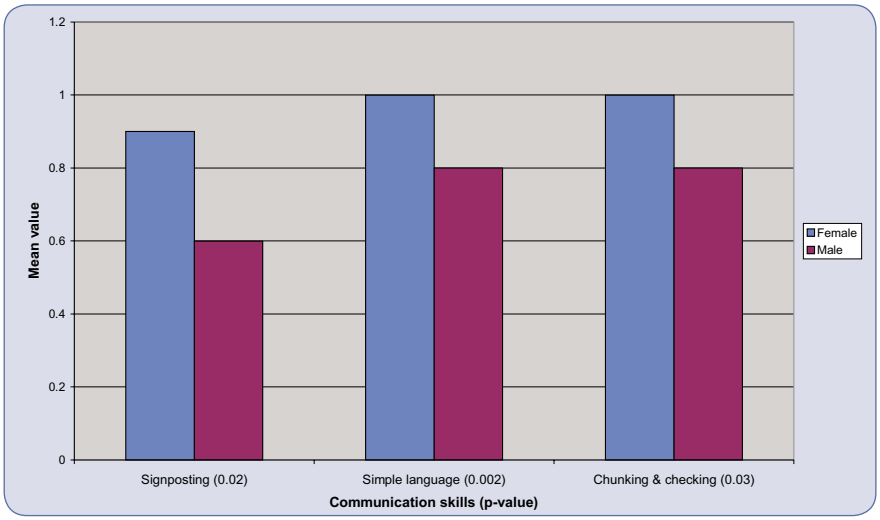



**Figure 2:** Performance in communications skills of both groups

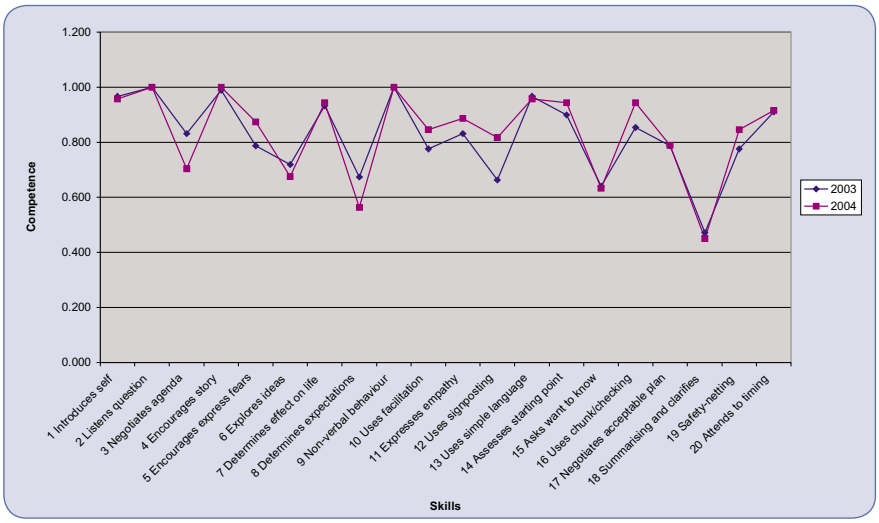
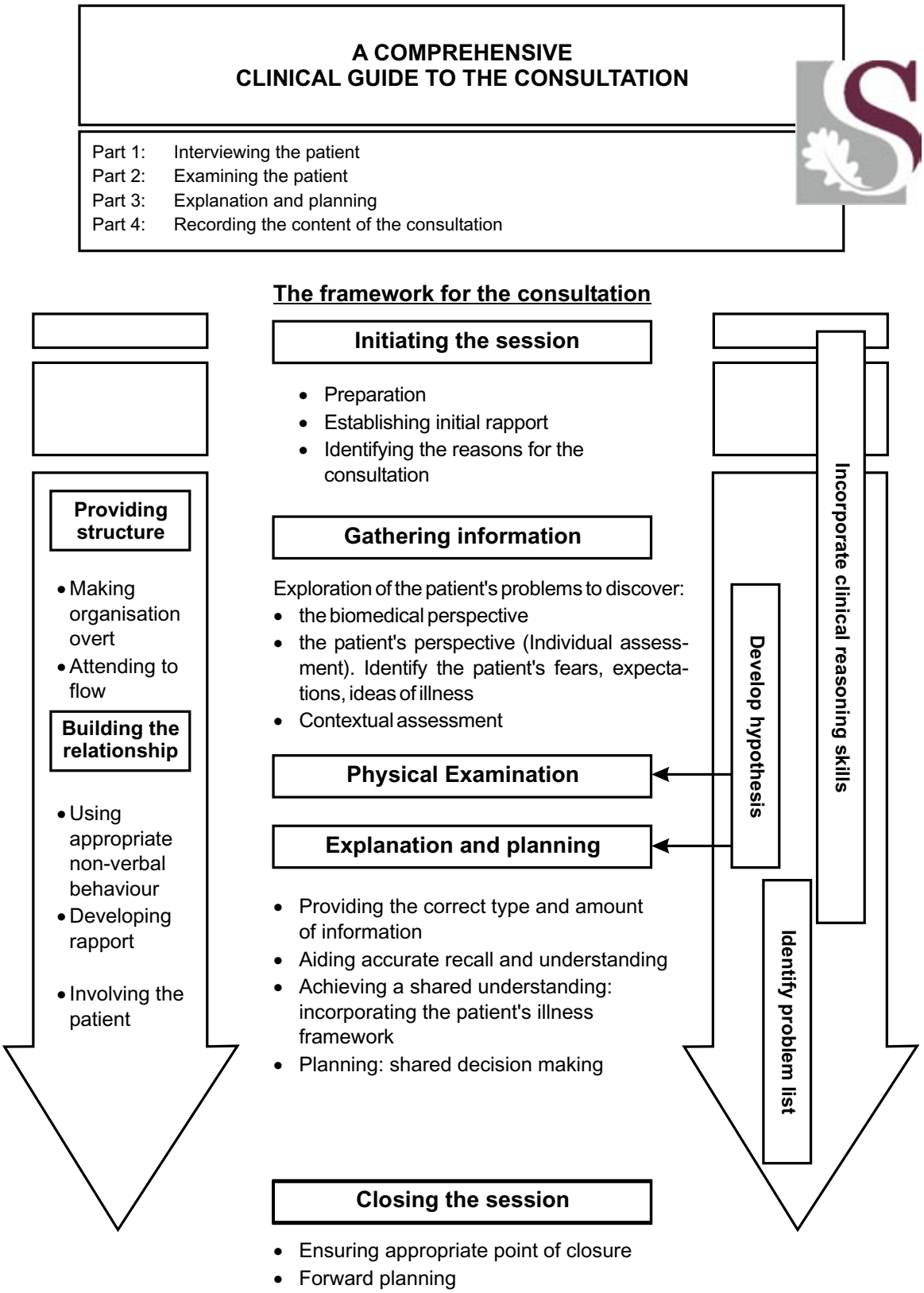


**Figure 3:** Stellenbosch comprehensive clinical method




Acknowledgement: **THE CALGARY-CAMBRIDGE GUIDE TO THE MEDICAL INTERVIEW**
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have positively influenced some of the results, in that the students were undergoing a summative assessment.

Our results fail to show a measurable difference in doctor-patient consultations in terms of communication skills. This is despite matched groups of students receiving considerably more teaching in the areas observed. Several explanations are possible.

Communication skills training in our curriculum has been limited to Family Medicine and has not been supported or continued in most of the other clinical rotations. Trainers adopting a patient-centred approach in which effective communication plays a central role will have a greater influence in conveying the importance of communication skills than those mainly functioning within a biomedical framework.[9] Dilution of the inputs by the rest of the clinical rotations that do not reinforce communication skills input, and possible negative role modelling of skills elsewhere could also have played a role in our failure to demonstrate significant differences.

The training groups in the Family Medicine training sessions were large and most students did not get the opportunity to participate in the simulated role plays. There was also a lack of modelling of skills in the training sessions, with little demonstration of the skills. Constructive feedback on performance and reflection on the reasons for any blocking behaviour were limited.[5] There was also a difference in the training skills of the Family Medicine tutors involved in the training.

Rees and Garrud indicate that students regard communications skills training in the undergraduate medical programme as valuable, but with some reservations.[10] The perception of students is that, although communication skills are important in the doctor-patient interaction, they are not rated as important as their medical subjects, which are more rigorously assessed.[10] Student attitudes towards communication skills courses are often influenced by variables such as age and how significant others (parents who are doctors and clinicians in the clinical setting) view the importance of these skills. Another variable is whether the students themselves feel the need to improve their skills.[11,12,13] Gender also seems to be an important variable in the attitudes of students towards communication skills training, which was not substantiated in our study, as it was not one of our objectives. Previous research has shown that male students are slower in improving communication skills and subsequently are less positive about communication skills learning.[11].

Although our study did not set out to investigate the influence of language and cultural differences on the students' communication skills, it became apparent to the evaluators on viewing the video clips that some students were struggling with the use of a language that was obviously not their first language. Stellenbosch University is attracting increasing diversity in its student population and this will be an important aspect to include in future research. Differences in language and cultural background between health workers and patients can result in inferior quality of care, adverse outcomes and dissatisfaction on both sides. It has to be addressed in communication skills training[14].

The effectiveness of communication skills training depends on an integrated approach.[1] This was unfortunately not the case in our curriculum at the time of the study, as there was a separation of communication skills from instruction in clinical reasoning and decision-making skills. Clinicians in all disciplines have an important contribution in integrating clinical reasoning with communication skills.[13] Our assessment of communication skills was also only limited to the Family Medicine rotation. The theoretical aspects of medicine, the training of clinical skills such as the physical examination of a patient, and the complete consultation procedure should be fully integrated. A longitudinal approach should counter the degeneration of communication skills if these are taught only in the initial years of medical training.[1]

Our study has resulted in the development of an integrated framework for the consultation. Using the Calgary-Cambridge guide, we designed the ***Stellenbosch comprehensive clinical method***, in which our local needs, context and solutions are incorporated.[7] We have integrated history taking, the clinical examination, management of the problem, clinical reasoning skills, communication skills and a patient-centred approach in a locally relevant model for the doctor-patient consultation (see Figure 3).

We are also putting in place the more comprehensive use of various communication skills training methods to improve the students' abilities to effectively conduct a complete consultation. These include the production of a video demonstrating specific communication skills within the South African consultation context, and workshops focusing on culture and language in communication skills.[5]

Finally, a working group is currently developing a golden thread for communication skills to run throughout the medical curriculum to integrate communication skills learning. Their remit is to plan where and how this should take place, and how to implement, assess, monitor and evaluate communication skills in a longitudinal manner. It is our intention to take another impact measurements, including quantitative and qualitative elements, following the implementation of the working group recommendations.

The outcome of this study prompted a process of curriculum change that will facilitate the longitudinal integration of communication skills in the medical curriculum.

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