

### Do Nonverbal Behaviors of the Professor During Classroom Teaching Affect the Level of Students' Learning?

### هل الإشارات الغير كلاميه من قبل المدرس في قاعة الدراره تؤثر على مستوى التعلم عند الطلاب ؟

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**Background:** Achieving the characteristics of effective teaching can play an undeniable role in assurance of education. The aim of this study was to assess the relationship between some nonverbal behaviors of university professors during classroom teaching and the level of students' learning.

**Methods:** In this cross sectional study, a list of professors' nonverbal behaviors and dynamic characteristics during classroom teaching, which might lead to a more efficient learning, was prepared based on a focus group discussion composed of the selected students. These items were checked according to the checklist, by two students after attending each session. At the end of each session an exam, which was validated based on the lesson plan with appropriate validity was held to evaluate the amount of learning in the students. The correlation between the students' scores and the nonverbal behaviors of the professor was analyzed by SPSS software ( $\alpha=0.05$ ) and Pearson correlation test.

**Results:** A significant correlation was found between "professor's walking in the class" ( $P=0.028$ ) and "using hand movements during teaching" ( $P=0.002$ ) and the increase in the mean of students' scores.

**Conclusions:** According to the limitations of this study, nonverbal behaviors such as teacher's walking in the class and using hand movements during teaching can significantly increase the learning level of students during classroom teaching.

**Keywords:** Education, Professor, Student, Learning, Nonverbal Behaviors

**المقدمه:** إن ادراك خصوصيات التدريس المؤثر يلعب دور بارز في رفع مستوى كفيته التعليم. الهدف من هذه الدراره هو تقييم مستوى ارتباط بعض الاشارات الغير كلاميه عند المدرس مع مستوى التعلم عند الطلاب في الدروس النظرية.

**الطرائيق:** في بدايه اجراء هذه الدراره المقطعيه تم عقد جلسه بحضور الطلاب المنتخبين و تم الاختيار عدد من الإشارات الغير كلاميه و خصوصيات خاصه ببعض الاماذه التي تساعد أكثر في تفهيم الطلاب في التعليم. تم توظيف طالبين لاجل ضبط هذه الإشارات غير استمارات و كان هناك اختبار مبني على معايير احصائية في نهاية كل محاضره يقيم مستوى التعلم عند الطلاب. تم تحليل المعلومات عبر برنامج SPSS ( $\alpha=0.05$ )

**النتائج:** اشارت نتائج هذه الدراره الى أن الإشارات الغير الكلاميه من قبل المدرس على سبيل المثال المشي اثناء التدريس و حركات اليد لها تأثير ايجابي على مستوى التعلم عند الطلاب.

**كلمات المفتاح:** التعليم، الإستاذ، الطلاب، التعلم، الإشارات الغير كلاميه.

### آيا رفتارهای غیر کلامی استاد در کلاس های نظری بر یادگیری دانشجویان موثر است؟

### کیا استاد کی باڈی لینگویج اور غیر کلامی سرگرمیوں سے طلباء کی پڑھائی پر اچھا اثر پڑتا ہے۔

**مقدمه:** درک خصوصیات تدريس اثربخش می تواند نقش بسیار مهمی در ارتقای کیفیت آموزش داشته باشد. هدف این مطالعه، ارزیابی ارتباط برخی رفتارهای غیر کلامی استاد در کلاس های نظری و میزان یادگیری دانشجویان بود.

**روش ها:** در ابتدای این مطالعه مقطعی، طی یک جلسه متمرکز با حضور دانشجویان منتخب لیستی از رفتارهای غیر کلامی و خصوصیات حرکتی اساتید که می تواند منجر به یادگیری بهتر دانشجویان گردد تهیه گردید. این موارد توسط دو دانشجو پس از حضور در کلاس بر اساس چک لیست ثبت شد. در انتهای هر جلسه آزمونی با روایی مناسب بر اساس طرح درس جهت ارزیابی میزان یادگیری دانشجویان برگزار گردید. ارتباط بین نمرات کسب شده توسط دانشجویان و رفتارهای غیر کلامی استاد با استفاده از نرم افزار SPSS مورد تجزیه تحلیل قرار گرفت ( $\alpha=0.05$ ).

**یافته ها:** راه رفتن استاد در کلاس ( $P=0.028$ ) و نیز استفاده از حرکات دست توسط استاد ( $P=0.002$ ) ارتباط معنی داری با افزایش میانگین نمرات دانشجویان نشان داد. **نتیجه گیری:** تحت شرایط این مطالعه مشخص گردید که رفتارهای غیر کلامی استاد حین تدريس در کلاس های نظری، شامل راه رفتن در کلاس و استفاده از حرکات دست حین تدريس می تواند به طور معنی داری بر یادگیری دانشجویان تاثیر مثبت داشته باشد.

**واژه های کلیدی:** آموزش، استاد، دانشجو، یادگیری، رفتارهای غیر کلامی

**بیك گراوند:** تدريس كے موثر طريقوں سے طلباء كے پڑھائی پر كافی اچھا اثر پڑتا ہے۔ اس تحقيق كا هدف كلاس ميں استاد كے غير كلامی سرگرمیوں سے پڑنے والے اثرات كا جائزہ لینا ہے۔

**روش:** اس تحقيق ميں ایک جلسه ميں منتخب طلباء سے استاد كے غير كلامی خصوصيات اور سرگرمیوں كے فہرست بنائي گئی جن سے طلباء كے پڑھائی پر مثبت اثر پڑتا ہے۔ ڈیٹا كا ایس پی ایس ایس سافٹ وير سے تجزیہ كیا گیا۔

**نتیجے:** استاد كے باڈی لینگویج اور ان كے چلنے كا انداز اور ان كے ہاتھ كے حرکت سے طلباء متاثر ہوتے ہیں اور ان كے اوسط نمبروں پر اثر پڑتا ہے۔

**سفارش:** اس تحقيق سے پتہ چلتا ہے كہ استاد كے باڈی لینگویج بہرحال طلباء پر اثر انداز ہوتی ہے۔

**کلیدی الفاظ:** استاد، طلباء غیر کلامی سرگرمیاں، باڈی لینگویج۔

## INTRODUCTION

In the process of education, teaching and learning are interdependent parts. Although teaching is the teacher's activity, but its result is learning which depends on the student (1).

The primary purpose of classroom teaching is transferring the knowledge to the students to establish learning (2). A strong correlation between lesson's objectives, teaching methods and student's learning is needed in order to achieve the ideal teaching (3).

Some scholars consider the activity of teaching as a science and discuss that there are some principles and rules for teaching, which must be detected and used through researches while others consider it as an art and believe that it is affected by many factors such as personal needs and beliefs of teachers. At the same time, another group of researchers consider teaching as a science-based art or an artistic science and establish connections between these two viewpoints (4-7). Teaching activity emerges with four measures which are as follows: 1) making connection i.e. attracting attention for learning, 2) continuing connection i.e. getting interested in the activity related to learning, 3) making the connection effective i.e. employing rules and principles for facilitating learning, and 4) ending connection i.e. assuring the furtherance of learning and its continuation (5). Considering a professor's performance in each teaching step, different methods of teaching forms which can be called "teaching skills" (5).

One of the main problems in education process is the lack of indicators of effective teaching. Effective teaching is based on a set of qualifications of a professor which fulfills the educational objectives and student's learning. It should be said that learning is also depend on student's trend to learning, student's behavior, lesson's content and teaching environment (8, 9).

The ability to establish an effective communication is one of the characteristics of effective teaching (10). In addition, a vital part of one's effectiveness as a teacher is to motivate and help students learn content matter (11). It seems that the professor's walking and positioning in the class and using hand movements during teaching might engross the students in the subject and increase learning.

One of the major methods for the evaluation of the professors is to evaluate them from the viewpoint of students, but some factors irrelevant to professors' teaching quality such as leniency of the professor, difficulty or simplicity of the subject, the number of students, the discipline of the classroom, academic rank of the professor, gender and personal characteristics of students, the academic semester, the expected and the real score of the students, physical and social charisma of the professor and etc. can affect the students' opinion on the quality of teaching and it can reduce its value (12, 13).

Because of the key role of faculty members in educational system, promoting their teaching competencies can significantly affect students' learning (14). So, recognizing the characteristics of a good professor and attempting to achieve these characteristics by the teachers, can improve the

quality of teaching. Studies evaluating the effect of behavioral characteristics during teaching on the level of learning are rare. So, the purpose of this study was to evaluate the effectiveness of some nonverbal behaviors on classroom teaching and the level of students' learning.

## METHODS

This was a cross sectional study conducted among the third-grade students of the Faculty of Dentistry. In the first phase for determining all the factors which could be effective on the quality of learning, a qualitative study had been designed and a meeting was held by the project conductor using the ten-member focus group of top students of the class regarding their attention in the classroom.

In this meeting, a complete list of some nonverbal behaviors and dynamic characteristics of the professors during teaching which may lead to attract the attention of the students and increase the learning level in classroom teaching was prepared. The purpose of this focus group discussion was to prepare a checklist of these characteristics validated by the students. In this meeting, an interviewer and a note keeper were present using a tape recorder, and the opinions of group were collected using the effective methods in collecting opinions and probing the tips. Based on this list, the two characteristics of "professor's walking in the class" and "using hand movements during teaching" were selected as marked nonverbal behaviors of the professor and were assessed.

Since lesson plan is among the useful tools to improve the quality of education (15), the lesson plans of all the professors for their classroom teaching during the semester were collected at the beginning of the project. In order to prepare a test with a proper content validity for evaluating the level of learning, five questions were designed from each subject and submitted to the related professor, while they were asked to confirm the appropriateness of the questions and to edit the questions based on their special learning objects.

Then, 15 students who were top-rated and satisfied in participating in the project were selected. Fifty three faculty members and 136 class sessions which were all of the theoretical class sessions for third year students in one semester were included in the study. At the end of each class, these 15 students were asked to answer the prepared validated test, showing the learning level of them as a group as students that try to attend mentally in the classes.

In order to record the characteristics of each professor member in teaching, the prepared checklist including several behavioral-verbal teaching skills was given to two of the participant students in each class. The checklist was filled out based on the fact that whether each of the two characteristics is true about the mentioned teacher or not.

In the last phase, the correlation between the mean of students' scores with professors' characteristics were investigated. The data were analyzed using SPSS version 11.5 ( $\alpha=0.05$ ) and Pearson correlation test.

## RESULTS

The first part of our research was a qualitative study for

determining all the factors which could be effective on the quality of learning. So, a focus group discussion was held to prepare a checklist of some nonverbal behaviors and dynamic characteristics of the professors during teaching which may lead to attract the attention of the students and increase the learning level in classroom teaching.

Based on this list, the two characteristics of "professor's walking in the class" and "using hand movements during teaching" were selected as marked nonverbal behaviors of the professor and were assessed.

This study showed a significant correlation between "professor's walking in the class" and the increase in the mean of students' scores ( $P=0.028$ ). Also "using hand movements during teaching" had a significant relationship to the mean of students' scores ( $P=0.002$ ).

## DISCUSSION

The ability to communicate effectively is one of the most important phases of teaching that can be a function of personality and academic characteristics of the professor. Studies have shown many personal characteristics of the professor which can be considered for interaction between the professor and the student. Some of these characteristics include respecting the students, helping them with solving their problems with empathy and mutual understanding, being cheerful, having positive and energizing manner, being interested in education, gender, communication style, rhetoric, ability to control the class, the effectiveness of the professor's voice for teaching, and appearance and discipline (10, 16).

Although there are various methods for evaluating professors, the most common method in Iran is the evaluation of the professor by the students, which is so controversial. Thus, in order to evaluate the effect of the professors' skills on students' learning, this study was conducted by giving a test with appropriate validity to the students instead of using questionnaires which need to be answered by them regarding the quality of teaching. This method appears to improve the assessment of students' learning.

Our focus group was made of top-rated students because of two reasons. First, since our goal was to achieve some points for promotion and increasing the attractiveness of learning, only students were included, not the teachers, and considering that often more successful students care more about their learning, the students ought to be top-rated.

Students with lower grades would rather be studied in a separate project so that we can understand that which factors might be able to attract the attention of such students to learning. This assessment is not in the limitations of our study because our goal of assessing the norm. If all of the students of a class were participated in the study, the number of contributing factors was so increased that drawing a conclusion would get really difficult. So, we merely concentrated on the students who themselves had strong desire and trend to learning. In such cases, skills and effort of teachers could be effective. Also, one of the advantages of our study is that instead of including several factors, it has focused on learning and is not only based on the attitude of

students and teachers.

In order to establish a persistent relation, the professor can try different ways to attract the attention of students and involve them in the topic by stating the purpose of the subject (5).

According to the results of this study, "professor's walking in the class" and "using hand movements during teaching" would increase the learning level of students during classroom teaching. It seems that such nonverbal behaviors of the professor could accelerate the professor-student communication, encourage and motivate students to learning.

**Myers and his colleague believe that** in order for a professor to motivate his/her students to learn, he/she must establish a classroom environment that is conducive to learning and make him/herself attractive and engaging to the learners. The positioning and walking of the teacher in the classroom indicates whether he/she is enthusiastic about the subject matter, cares about the students' progress, is motivated to help students learn content material, and has high expectations for the success of his/her students. Furthermore, the teacher's involvement with the class contributes to his or her professional demeanor and demonstrates to students that the new material they are expected to learn is deliberately taught and should be taken seriously. According to this study, changing the position of a professor in the classroom while teaching affects the quality of learning of the students (11).

Akbari et.al compared the students' and teachers' viewpoints about the characteristics of a good teacher in their study. This study showed that changing the position of the professor in the classroom while teaching is a really important factor and is considered as one of the characteristics of a good teacher (17). The results of their study are in accordance with our results.

On the other hand, students may consider walking the professor around the classroom as a sign of his/her self-confidence and mastery on the subject. These two issues are both among the important characteristic of a good teacher. Just as the study of Hosseini et.al which showed that as far as teaching skills are concerned, professor's mastery on the teaching subject is the most important priority in professor's assessment (18).

The studies conducted by Dadkhah and Teylor showed that the mastery of professor on the subject and the ability to present the lesson is one of the most important characteristics of a good professor from the viewpoint of the students (19, 20). So walking the professor around the class and using hand movements while teaching might show the higher ability of the professor in presenting the subject.

One of the limitations of the present study was the low number of the professors and also the students who filled out the checklists. It is obvious that more evidence of effective points in increasing the students' learning would be obtained for the professors' usage by increasing the number of participants (both students and professors). The other limitation was the difference of lessons which might affect the results due to the increase of intervening factors. According to the conditions of this study, nonverbal behaviors such as teacher's walking in the class and using

hand movements during teaching can significantly increase the learning level of students during classroom teaching.

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#### Conflict of interest

The authors declare no conflict of interest.

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