Original Article

Favorable teaching styles and teacher characteristics based on the perceptions of medical and non-medical students

Veeravan Lekskulchai*, Pathama Leewanich**

Abstract

Objective: This study aims to survey the perceptions of medical and non-medical students in terms of their preferred teaching styles and teacher characteristics.

Methods: A questionnaire consisting of 10 teacher characteristics and 11 teaching styles was used as a survey tool. All second-year university students in the fields of medicine, nursing, humanities, and engineering at SWU and second-year medical students at two private universities (Siam University and Rangsit University) in the 2017 academic year were invited to complete this survey.

Results: A total of 807 students responded to the questionnaire. The perceptions on teaching styles and teacher characteristics of medical students did not differ much from those of non-medical students. The most favorable teacher characteristic was the teachers' expertise in their subjects (52.3%), followed by the friendliness/cheerfulness (31.0%), and the willingness in helping students (7.0%). Most students prefer to learn in a lecture-based style. The students voted that a lecture with a relaxing classroom environment was their number one most favored teaching technique (43.3%), followed by the training/practicing/lab working (23.2%), and the lecture with encouraging students to solve questions (11.6%).

Conclusion: Field of study does not have much influence on undergraduate students' favored teacher characteristics and teaching styles. Even though information technology has drastically progressed, most students still prefer to learn with a lecture-based style. Without the students' passion and their willingness to engage in the teaching process, applying an active learning technique may not be possible.

Key Words: Teaching methods, Active learning, Lectures, Medical students

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* Department of Pathology, Faculty of Medicine, Srinakharinwirot University, Bangkok, Thailand

** Department of Pharmacology, Faculty of Medicine, Srinakharinwirot University, Bangkok, Thailand

Corresponding Author: Pathama Leewanich Department of Pharmacology, Faculty of Medicine, Srinakharinwirot University, 114 Sukhumvit 23, Wattana, Bangkok 10110 Thailand. Tel: + (66) 2 6495388 Fax: + (66) 2 2602125 E-mail: pathama@g.swu.ac.th

Introduction

Educational reform in the 2000s and beyond was introduced to combat the crises of declining student achievement.[1] It places increasing emphasis on teacher quality as a key for educational improvement.[2, 3] Teacher quality includes teacher qualifications, characteristics, practices, and effectiveness, all of which contribute to the concept of what makes a good teacher.[4] Educational degrees or certificate and work experience are commonly used when hiring teachers and assigning them to a particular subject or curriculum.[5-7] Although teacher quality is a key determinant of student learning and achievement, little is known about which specific observable characteristics of teachers can account for this impact.[7-9]

As a component of teacher quality, teacher practice or teaching style has an influence on student participation and engagement to fulfill teaching goals.[10] Teaching style refers to the ways in which a teacher conveys information and skills to students, the ways in which a teacher interacts with his/her students and the teaching strategies a teacher uses to accomplish specific teaching tasks.[10, 11] Traditionally, teaching is dominated by a teacher-centered approach in which a teacher verbally communicates information to students and students passively receive and encode that information to memory.[12, 13] In this style, theory is presented without much connection to practice[14], and learners may not know how to apply their knowledge in their lives or professional workplace.

Another style, called learner/student-centered or active learning style, has been implemented in various educational fields.[15] This style replaces the lecture-based approach in order to prepare students for lifelong learning, the workplace and professional success.[16-18] All of the teaching techniques that involve students in the learning process and hold students responsible for their own learning are counted as being an active teaching style.[19-20] Examples of active learning include teaching activities such as student presentations, performances, demonstrations, practice of skills, sharing in pairs or small groups, cooperative/collaborative activities in small groups, using technology in the classroom, debates, and class discussion.[21] In the Faculty of Medicine at Srinakharinwirot University (SWU) in Bangkok, Thailand, students learn from lectures and various active learning techniques including laboratory practice and problem-based methods.

Because students have different backgrounds[12, 22], no teaching technique is suitable for all students. However, a technique matched with a majority of students' needs in a certain classroom may be able to engage students and enhance their achievement. Indeed, previous report revealed that students' negative perceptions towards their teachers or learning environment could have a negative impact on their learning approach resulted in a reduction in their learning outcomes.[23]

The purpose of this study was to survey the perception of second-year university students studying in certain fields in terms of their favored teaching styles and teacher characteristics. The perceptions of SWU medical students were compared with the perceptions of students in other fields to determine whether students' perception was influenced by their institute or academic field.

Methods

This project was approved by the Srinakharinwirot University Ethics Committee for Human Research. A questionnaire was created and used as a survey tool. This questionnaire was divided into three parts; the first part gathered data corresponding to respondents' sex and age, the second part asked respondents about their satisfaction with teacher characteristics and teaching styles from their past experience, and the third part asked them to vote for their favorable items from a given list consisting of 10 teacher

characteristics and 11 teaching styles (Table 1). The questionnaire was sent to second-year university students in the fields of medicine, nursing, humanities, and engineering at SWU and second-year medical students at two private universities (Siam University and Rangsit University). All students in these classes in the 2017 academic year were invited to complete this survey. They were asked to place number one in front of his/her most favorable item and number two and three in front of his/her next most favorable ones. Statistical analyses were performed using SPSS statistics for Windows version 19 (SPSS, Inc. IBM Corp. Armonk, NY, USA). The Chi-square test was used to analyze the differences in favorable teacher characteristics and teaching techniques between certain respondent groups; a significance level of 0.05 was adopted as indicating statistical significance.

Table 1 List of the third part of the questionnaire

Teacher characteristics	Teaching styles
- Appearance/Good looking	- Lecture with improvement based on students' comments
- Academic position	- Lecture with updated contents
- Working experience	- Lecture with disciplinary classroom environment
- Expertise in teaching subject	- Lecture with relaxing classroom environment
- Research experience	- Descriptive lecture
- Respect to student privacy	- Lecture with encouraging students to solve questions
- Friendliness/Cheerfulness	- Flipped classroom
- Austerity	- Self-study for an assigned topic
- Devoting time for tuition	- Problem based
- Willingness to help students	- Self-study from given materials
	- Training/Practicing/Lab working

Results

Background of respondents

From the total number of 872 students, 807 students (92.6%), 502 females (62.2%) and median age of 20 (18-32) years, responded to the questionnaires.

Favorable teacher characteristics

From the 10 given teacher characteristics, the top 5 most favorable teacher characteristics were as the following: 1) the teachers' expertise in their subjects (52.3%), followed by 2) the friendliness/cheerfulness (31.0%), 3) the willingness in helping students 7.0%), 4) the working experience (3.4%), and 5) the appearance/good looking (2.0%) (Table 2). Subgroup analysis, medical students from SWU, medical students from private Faculties, and students from non-medical Faculties, the top three ranking were not changed in order except students from engineering ranked the appearance/good looking to be the 3rd rank instead of the willingness in helping students (5^{th} rank).

Table 2 Top five teacher characteristics ranked as the number one most favorable by each respondent group

Teacher characteristics	Respondent groups					
	MS-S (n=152)	MS-P (n=148)	NS (n=92)	ES (n=287)	HS (n=128)	Overall (n=807)
Expertise in teaching subject	91 (59.8)	92 (62.2)	40 (43.8)	142 (49.6)	59 (46.3)	422 (52.3)
Friendliness/Cheerfulness	44 (29.0)	17 (11.7)	38 (41.7)	90 (31.4)	53 (41.1)	250 (31.0)
Willingness to help students	9 (5.6)	13 (9.0)	12 (12.5)	4 (1.4)	8 (6.3)	56 (7.0)
Working experience	3 (1.9)	11 (7.2)	2 (2.1)	14 (5.0)	1 (1.1)	28 (3.4)
Appearance/Good looking	1 (0.9)	4 (2.7)	0 (0.0)	18 (6.4)	0 (0.0)	16 (2.0)

MS-S, medical students of Srinakharinwirot University; MS-P, medical students of 2 private Faculties; NS, nursing students; ES, engineering students; HS, humanities students Data are presented as number (%) of total number for each group

Regardless of their ranks, female students favored friendliness/cheerfulness of teachers significantly higher than male students (80.4% vs 74.4%, P *<0.05*) whereas male favored appearance/ good looking of teachers significantly higher than female students (14.7% vs 5.7%, P *< 0.01*). Medical students from SWU favored friendliness/cheerfulness of teachers significantly higher than those from private Faculties (78.6% vs 67.1%, P *< 0.05*) whereas medical students from private Faculties favored appearance/good looking of teachers significantly higher than medical students from SWU (8.1% vs 2.1%, P *< 0.05*). Non-medical students from SWU favored appearance/good looking of teachers and academic position significantly higher than medical students from SWU (13.2% vs 2.1%, P < 0.01 and 6.5% vs 2.1%, P < 0.05, respectively). Students from health Faculties (Medicine and Nursing) favored in expertise in teaching subject significantly higher than those from non-health Faculties (Engineering and Humanities) (83.1% vs 75.7%, P < 0.05) whereas students from non-health Faculties favored in appearance/ good looking, academic position, austerity, and research experience of teacher significantly higher than those from health Faculties (14.7% vs 3.8%, P < 0.01; 7.7% vs 1.7%, P < 0.01; 5.8% vs 1.3%, P < 0.01; and 4.3% vs 1.3%, P < 0.05, respectively).

Favorable teaching styles

From the 11 given teacher styles, the top 5 most favorable teacher styles were as the following: 1) the lecture with relaxing classroom environment (43.3%), followed by 2) the training/practicing/lab working (23.2%), 3) the lecture with encouraging students to solve questions (11.6%), 4) the lecture with improvement based on students' comments (11.0%) and 5) the lecture with updated contents (5.3%), (Table 3). Subgroup analysis, medical students from SWU, medical students from private Faculties and students from non-medical Faculties, the top three ranking were not changed in order except students from Engineer and Humanities ranked the lecture with improvement based on students' comments to be the 3rd rank instead of the lecture with encouraging students to solve questions (5^{th} and 4^{th} rank, respectively).

Table 3 Top five teaching styles ranked as the number one most favorable by each respondent group

Teaching styles	Respondent groups					
	MS-S (n=152)	MS-P (n=148)	NS (n=92)	ES (n=287)	HS (n=128)	Overall (n=807)
Lecture with relaxing classroom environment*	60 (39.5)	63 (42.9)	36 (39.5)	112 (39.0)	72 (55.9)	350 (43.3)
Training/Practicing/Lab working#	32 (21.1)	25 (17.1)	32 (34.9)	63 (22.1)	26 (20.6)	187 (23.2)
Lecture with encouraging students to solve questions*	24 (15.8)	25 (17.1)	13 (14.0)	15 (5.2)	8 (5.9)	94 (11.6)
Lecture with improvement based on students' comments	20 (13.2)	21 (14.3)	4 (4.7)	41 (14.3)	11 (8.8)	89 (11.0)
Lecture with updated contents*	8 (5.3)	8 (5.7)	2 (2.3)	30 (10.4)	4 (2.9)	43 (5.3)

MS-S, medical students of Srinakharinwirot University; MS-P, medical students of 2 private Faculties; NS, nursing students; ES, engineering students; HS, humanities students

* Passive learning

Active learning

Data are presented as % of total number of each group

Regardless of their ranks, male students favored the lecture with disciplinary classroom environment and the self-study for an assigned topic significantly higher than female students (11.0% vs 5.5%, P <0.01 and 5.3% vs 1.2%, P < 0.05, respectively). Non-medical students from SWU favored the lecture with relaxing classroom environment and the training/practicing/lab working significantly higher than those from medical students from SWU (60.0% vs 42.8 %, P < 0.01 and 50.5% vs 36.6 %, P < 0.01, respectively) whereas medical students from SWU favored the lecture with improvement based on students' comments significantly higher than non-medical students from SWU (53.8% vs 36.9%, P < 0.01). Students from health Faculties had more favor to the lecture with improvement based on students' comments, the lecture with updated contents, and the lecture with encouraging students to solve questions significantly, compared to those from non-health Faculties (47.5% vs 36.8%, P < 0.01; 43.6% vs 32.9%, P < 0.01; 30.1% vs 21.2%, P < 0.05, respectively).

Discussion

A major goal of academic institutes was to promote the achievements of their students. As a primary resource of the teaching process, good-quality teachers—indicated partly by their characteristics and teaching practice—were a key component to ensure the recognition of students' fulfilment.[2, 3, 10] It was suggested that matching both a teacher's characteristic and teaching style with students' perception could have influence on student participation and engagement in a teaching-learning process[12, 22, 23] and, as a consequence, learning outcomes.

We found that most students from all institutes voted that a teacher's expertise in his/her teaching subject was their number one most favored teacher characteristic. This characteristic is commonly used for hiring a teacher. Therefore, it is not surprising that teachers with expertise in their own subjects are important.

According to second-year university students, a good teacher should be smart so that he/she can be a source of knowledge. This situation persists despite progressive advances in information technology. Though expertise in a teaching subject is basically related to a teacher's educational attainment, it is also allied with updated knowledge from his/her continuous learning. Furthermore, we believe that students recognize a teacher's expertise not only from his/her knowledge but also from his/her teaching preparation and performance.

The second most favorable teacher characteristic was the teacher's friendliness. Most students looked for a friendly teacher whom they could comfortably approach. Students also needed to learn from a generous teacher who expressed his/her willingness to help students or dedication for tuition. According to a previous report[18], a good relationship between a teacher and his or her students relies on mutual respect and rapport. Teachers who are sympathetic, supportive and intimate and lead without strictness can increase the cognitional and emotional success of students.[18] In our viewpoint, both friendliness and generousness are characteristics teachers should possess in order to change their role from a lecturer to a coacher, mentor, or facilitator in an active learning environment.

The statistical analyses revealed that some characteristics were favored differently by certain respondent groups. A teacher's appearance and academic position were more favored by male students and non-health science students than female students and health science students. Likewise, a good-looking teacher was more favored by medical students from private universities than SWU medical students. These two characteristics may not be necessary for student achievement, but a good-looking teacher may make the learning environment more attractive for some students. Likewise, academic position indirectly indicates a teacher's success and/or his/her expertise in teaching. An additional characteristic noted by some students was a teacher's fairness/candidness, which may be necessary for earning students' trust.

Our findings indicated that the students preferred to learn in a lecture-based style than other teaching styles. The lecture-based style is the way they have been taught for almost all their school life. Forty-three percent of students needed to learn from a lecture in a relaxing classroom environment. The classroom environment, therefore, provides an influence on students' learning. According to Shaari and colleagues[11], a learning environment with inviting, conducive and fun atmosphere was essential for teaching and learning. After listening to a lecture for a while, students' attention could be fluctuated from points of intense focus to total disengagement.[24] Teachers who can make serious content easy to remember or understand or who can make a boring lecture interesting may be able to draw their students' attention back to their lecture.

Although most students were satisfied with lecture-based teaching, they also needed to participate in the teaching process either directly or indirectly. All student groups, particularly those in the fields of health science, needed to directly participate in the teaching process by answering a teacher's questions during the lecture (3rd rank). It is encouraging students to practice their critical thinking skills depending on the difficulty of question.

The second most selected favorable technique was learning by training/practicing/lab working. This technique consists of applying concepts

learned from lectures in realistic conditions beyond the classroom.[25] It allows students to enact the tasks required for their profession in real-life situations. In some cases, students may have an opportunity to face challenges involving in their profession. This situation could lead to long-term effects on their careers and communities.[20]

As in other countries, various active learning techniques have been implemented in Thailand.[26-29] However, the success of this teaching style has been limited in some education fields. The results from this study indicate that an active learning style was not favored by most students. As a result, this style might not engage students. According to a previous study[20], some students did not like to learn by active learning techniques because they doubted their capability to perform successfully in this style; some students considered a non-lecture-based style to be not wholly relevant to their learning experiences. We asked our students, the SWU medical students, why they did not like to learn from problem-based learning (PBL) and why they preferred to learn from lectures. The students noted that they worried that they might receive less information from PBL and that they might be accordingly unprepared for examinations and their profession.

When students learn from the active learning technique, they are expected to generate the personal changes required by the acquisition of long-lasting knowledge. After learning, they should trust in their own capability to thoroughly understand ideas; they should also possess the skills required by their future career.[30] Consequently, students will possibly receive less knowledge directly from active learning, but they will learn how to search for information by themselves.

The active learning style is more effective at enhancing the cognitive, emotional, and behavioral abilities of students.[19, 30] It is important to select a technique that is compatible with students' perception, limitations, and needs.[19] Moreover, students should be informed about the purposes and benefits of the selected teaching technique[11] so that they will purposefully learn and willingly participate in the teaching process. Teaching and learning are a reciprocal process—teachers and an institute's administrators should manage the teaching process and environment accordingly in line with student perceptions. Doing so will increase not only academic achievement but also the students' professional achievement.

The ideal teacher for second-year medical and non-medical students is similar. Students need to learn from lecture given by expert teachers. Most students expect their teacher to be their main source of knowledge. They might not have ever realized the benefits they received from learning by an active learning technique. A teacher's friendliness and generosity are favorable characteristics according to most students. These characteristics are necessary for active learning in which teachers change their roles from lecturers to facilitators or coaches.

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Conflicts of interest

No potential conflict of interest relevant to this article was reported.

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บทคัดย่อ

รูปแบบการสอนและลักษณะของผู้สอนที่พึงปรารถนาตามมุมมองของนิสิตแพทย์และไม่ใช่นิสิตแพทย์

วีรวรรณ เล็กสกุลไชย*, ปัทมา ลิ้วนิช**

* ภาควิชาพยาธิวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

** ภาควิชาเภสัชวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

ผู้ให้ติดต่อ: ปัทมา ลิ้วนิช ภาควิชาเภสัชวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ 114 สุขุมวิท ซอย 23 วัฒนา กรุงเทพมหานคร 10110
อีเมล์: pathama@g.swu.ac.th

บทนำ: การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อสำรวจรูปแบบการสอนและคุณลักษณะของผู้สอนที่พึงปราถนาตามมุมมองของนิสิตแพทย์และไม่ใช่นิสิต

วิธีการศึกษา: ใช้แบบสอบถามที่ประกอบด้วยคุณลักษณะของผู้สอน 10 อย่าง และรูปแบบการสอน 11 แบบเป็นเครื่องมือในการเก็บข้อมูลจากนิสิตชั้นปีที่สองสาขาแพทยศาสตร์ พยาบาลศาสตร์ มนุษยศาสตร์ และวิศวกรรมศาสตร์ของมหาวิทยาลัยศรีนครินทรวิโรฒ และนิสิตแพทย์ชั้นปีที่สองของมหาวิทยาลัยเอกชนสองแห่ง (มหาวิทยาลัยสยามและมหาวิทยาลัยรังสิต) ในปีการศึกษา 2560

ผลการศึกษา: มีผู้ตอบแบบสอบถามทั้งหมด 807 ฉบับ พบว่านิสิตแพทย์และไม่ใช่นิสิตแพทย์มีมุมมองต่อรูปแบบการสอนและลักษณะของผู้สอนที่พึงปรารถนาไม่แตกต่างกันอย่างมีนัยสำคัญ นิสิตระบุว่าความเชี่ยวชาญในเรื่องที่สอนเป็นลักษณะของครูที่น่าพอใจมากที่สุด (52.3%) รองลงมาได้แก่ ความเป็นมิตร ร่าเริง (31.0%) และ ความเต็มใจช่วยเหลือผู้เรียน (7.0%) นิสิตส่วนมากชอบการเรียนในรูปแบบบรรยายเป็นหลัก นิสิตเลือกการบรรยายในบรรยากาศของห้องเรียนที่มีความผ่อนคลายเป็นเทคนิคการสอนที่เป็นที่นิยมอันดับหนึ่ง (43.3%) รองลงมาได้แก่ การสอนโดยให้ได้ฝึกปฏิบัติ (23.2%) และการสอนบรรยายที่ส่งเสริมให้ได้คิดแก้ปัญหา (11.6%)

สรุปผลการศึกษา: สาขาวิชาของนิสิตระดับก่อนปริญญาไม่มีอิทธิพลต่อมุมมองที่มีต่อคุณลักษณะของผู้สอนและรูปแบบการสอนมากนัก แม้ว่าเทคโนโลยีสารสนเทศมีความก้าวหน้าอย่างมาก แต่ผู้เรียนส่วนใหญ่ยังคงต้องการเรียนรู้ด้วยวิธีการสอนแบบบรรยายเป็นพื้นฐาน ถ้าผู้เรียนไม่มีความชื่นชอบและความตั้งใจที่จะมีส่วนร่วมในกระบวนการสอน การนำเทคนิคการเรียนรู้ด้วยตนเองมาใช้ก็อาจเป็นไปไม่ได้

คำสำคัญ: วิธีการสอนการเรียนรู้ด้วยตนเอง, การบรรยายนิสิตแพทย์