Ind. J. Pharm. Edu. Res., 2026; 60(4s):s1396-s1404.
https://www.ijper.org

Original Article

Development and Implementation of Undergraduate Seminar Course in the Faculty of Pharmacy, King Abdulaziz University, Saudi Arabia

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ABSTRACT

Background: Globally, pharmacy education is evolving and there is an increasing need to equip pharmacy undergraduate students with soft skills, especially presentation and communication skills. This study developed and implemented a seminar course designed to enhance verbal and nonverbal presentation skills among undergraduate pharmacy students at the Faculty of Pharmacy, King Abdulaziz University, Saudi Arabia. **Materials and Methods:** The course was structured into two phases, Seminar I and Seminar II, targeting various aspects of presentation and communication skills essential for professional success in pharmacy. Key evaluation rubrics included preparedness, articulation, volume, speech rate, content accuracy, originality, and relevance to the pharmacy profession. The data obtained were analyzed using descriptive statistics and Fisher Exact Test. Probability values less than 0.05 were considered statistically significant. **Results:** A total of 114 students participated in the study. The pharmacy undergraduate seminar course was successfully designed and implemented at King Abdulaziz University. Male students exhibited stronger presentation styles, showing higher preparedness, composure, and audience engagement in Seminar I, while female students excelled in slide formatting, spelling, and content relevance in Seminar II. Additionally, the Seminar II phase brought significant improvements across the cohort, particularly in the use of visual aids and originality of work, with a more balanced performance between genders in most assessment criteria. **Conclusion:** A seminar course for pharmacy students was successfully developed and implemented at King Abdulaziz University. This new course model could serve as a framework for integrating presentation and communication skills training into pharmacy curricula across similar academic settings.

Keywords: Development, Pharmacy students, Saudi Arabia, Seminar course, Soft Skills.

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Received: 15-06-2026;
Revised: 06-07-2026;
Accepted: 24-08-2026.

INTRODUCTION

Pharmacy education is evolving globally, and there is a growing recognition of the need to equip students with not only technical knowledge but also critical thinking, communication, and research skills.[1] Seminar courses provide a platform for students to engage in discussions, present findings, and interact with peers and faculty members, promoting a deeper understanding of complex topics.[2] Through structured seminar courses, pharmacy students can develop soft skills that would enhance their communication and self-efficacy.[3] The introduction of a seminar course can bridge the gap between theoretical learning and real-world application, preparing students for diverse roles in healthcare.[4]

Over the years, pharmacy education has focused on dispensing and drug knowledge, but the profession has shifted toward patient-centered care, requiring pharmacists to take on more clinical responsibilities.[5] This shift has created a demand for pharmacists who are proficient in research, capable of analyzing scientific data, and skilled in interdisciplinary communication. The implementation of a seminar course aims to meet these needs by encouraging students to engage with the latest developments in pharmaceutical research, healthcare policy, and clinical practice.[6] Such a course would provide students with opportunities to critically evaluate literature, present case studies, and discuss innovations in pharmacy practice. Integrating seminars into the pharmacy curriculum will provide students with the opportunity to enhance their presentation and public speaking skills, which are essential in both clinical and academic settings.[7] The seminar course would also promote self-directed learning, as students will be required to research topics, prepare presentations, and

DOI: 10.5530/ijper.20262970

participate in discussions, fostering a sense of responsibility for their own education.[8] These skills are crucial for future pharmacists, who will need to stay updated on rapidly advancing medical knowledge.[9]

Furthermore, seminar courses in pharmacy schools could serve as a platform for interdisciplinary collaboration. Pharmacy students could work alongside peers from other healthcare fields such as medicine, nursing, and public health, promoting a collaborative approach to patient care.[10,11] This aligns with global trends toward interprofessional education, which emphasizes teamwork and communication among healthcare professionals. The seminar course approach would boost pharmacy students' soft skills and competencies in communication and presentation.[12] Seminar courses would prepare pharmacy students to meet the demands of the evolving healthcare landscape. Additionally, Romanelli *et al*., discovered that seminar course in a school of pharmacy can be used to provide an overview and orientation to staff and students regarding pharmacy profession and academic pharmacy.[13] However, current seminar courses in schools of pharmacy have peculiar challenges. For example, the existing seminar courses in many schools of pharmacy are often limited to one-off presentations with minimal structured training, feedback, or assessment of both verbal and non-verbal communication skills, leading to variable student outcomes.[14] The current seminar courses in pharmacy schools usually emphasize content delivery rather than systematic development of professional competencies such as critical thinking, audience engagement, and presentation confidence.[15] In contrast, this study developed and implemented a structured, outcomes-driven undergraduate seminar course that incorporates guided soft skill development, standardized assessment, and iterative feedback to enhance pharmacy students' presentation and professional communication skills.

The Doctor of Pharmacy (PharmD) program at King Abdulaziz University in Saudi Arabia is a six-year curriculum within the Faculty of Pharmacy that integrates extensive scientific and clinical training. Designed to meet international pharmacy education standards, it covers areas like pharmacology, pharmacotherapy, clinical practice, and public health. The first few years focus on foundational pharmaceutical sciences, while the latter part emphasizes clinical rotations in various healthcare settings, equipping students with patient care and therapeutic management skills. In the curriculum, pharmacy seminar courses are offered in the fourth and fifth years of the PharmD program. Pharmacy seminar I (CP 471) is designed to help students acquire soft skills such as preparation for presentations, delivery style, public speaking skills and management of stage fright and anxieties. In the pharmacy seminar I, the students are allowed to choose and present any topic of interest, whether it is related to pharmacy or not. However, in the pharmacy seminar II course (CP 572), the fifth-year students must choose a pharmacy-related topic and undergo training on how to write research objectives. Therefore, this study aimed to describe the development, implementation, and impact of a seminar course designed to enhance verbal and nonverbal presentation skills among undergraduate pharmacy students at the Faculty of Pharmacy, King Abdulaziz University, Saudi Arabia.

MATERIALS AND METHODS

Seminar design

This study adopted a quasi-experimental design to explore the effect of implementing a newly developed seminar courses on soft skill acquisition among undergraduate pharmacy students. The pharmacy seminar courses at the Faculty of Pharmacy, King Abdulaziz University were primarily designed to improve pharmacy students' verbal and nonverbal presentation skills and to enhance their skills in providing peer-constructive feedback. In view of the above objectives, the expected learning outcomes included: (1) Ability to recognize a formal seminar on a patient case study, (2) Interpret and explain audience analysis and occasion, (3) Acquisition of effective public speaking and listening skills, (4) Improve critical and analytical thinking abilities, (5) Ethical and professional awareness, (6) Use computer and communication technology to prepare presentations, (7) Research and information evaluation, and (8) Documentation and reporting skills.

In the Doctor of Pharmacy (PharmD) program, there are two seminar courses, namely Pharmacy Seminar I and II. Pharmacy Seminar I is a 1 hr credit unit course undertaken by fourth-year undergraduate students, while pharmacy seminar II is a 2 hr credit unit course offered by fifth-year students. In the pharmacy curriculum, pharmacy seminar I is scheduled once every week, for a period of 50 min per contact and a total of 14 sessions. The first three sessions of the semester are dedicated to teaching students about the responsibilities of different players in the seminars, how to prepare a seminar presentation, plagiarism, oral presentation skills, and how to overcome stage fright and public speaking fears. Seminar presentations among fourth-year students begin during a pharmacy seminar I course under the guidance of a faculty member. The students are expected to choose any topic of their choice, which must not be related to pharmacy for presentation in the pharmacy seminar I. The central idea behind the pharmacy seminar I is to enable students to develop self-esteem since it is their first time making such a presentation. On the other hand, the pharmacy seminar II for fifth-year students is held twice every week. Each contact lasts for 50 min, yielding a total of 100 min per week spanning over 28 sessions. The first four sessions in pharmacy seminar II are devoted to helping students develop skills needed for preparing a good scientific presentation, including writing objectives and Bloom's taxonomy of learning (knowledge, comprehension, application, analysis, synthesis, and evaluation). The 50 min per session for the seminar courses is distributed as follows: 5 min for attendance, 25 min for actual

student presentations, 10 min for questions and answer segment, and another 10 min for moderator critique. However, the 10 min allotted for moderator critique in pharmacy seminar II is redistributed for students' presentations.

During the pharmacy seminar I, the course coordinator first divides the students into two groups (group A and group B). The students are asked to prepare a 5-min presentation focused on any topic of interest. The students are provided with a list of themes from which they must select their topic for presentation. The themes cut across motivational issues, technology, science or science fiction, historical figures (places or characters), environment, country, book or novel or movie based on a true-life story, and sports (excluding topics centered on a football team and players). The roles of the students during the seminar course are interchanged either as moderators or critics whenever required. The students were expected to complete dissemination during the first three weeks and then upload their final presentation version by the end of the fourth week. The presentations are uploaded using the electronic Blackboard platform of King Abdulaziz University. Prior to final submission through the Blackboard platform, the students are mandated to run a plagiarism test on their work and make the necessary adjustments. Then, from the sixth week onward, the students begin the presentation of their seminar sessions. This study included 4th- and 5th-year pharmacy students because they were assumed to have basic pharmaceutical knowledge, greater exposure to professional courses, and prior experience with presentations, making them better positioned to meaningfully engage in and benefit from a seminar course. Also, as senior students, they are closer to clinical training and professional practice, allowing the impact of the seminar course on communication skills and pharmacy-related content integration to be more accurately evaluated.

Student instructions

The instructions on how to sign up on the electronic sheet are sent to the various group leaders at the end of the first lecture. The deadline given for students to sign up for the electronic sheet is the last working day of the third week. The students will be assigned a single role, either as a moderator or a critique by the faculty between the first week to the third week of starting the seminar course. Following a random order, the course coordinator fills the electronic form with the names of all the students in a time slot during the seminar session. With this, each student will be able to know their assigned role play and when they will participate in the seminar session.

The students assigned as speakers from the first week until the third week are to observe the following instructions: (1) Each student will fill out the electronic form with the topic name in a time slot, (2) Each student will choose a topic of interest, (3) The instructor will approve the chosen topic by the end of the second or third week, and (4) Topics will be approved on a first-come, first-serve basis, with no duplications. By the end of the last working day of the fourth week, the students are to submit their presentation on the Blackboard, present their topic on their assigned day, and participate in the question-and-answer session after all the speakers have presented their topics.

The students are exposed to experiential training on how to moderate or critique a seminar session beginning from the fifth week to the twelfth week. As regards the role of a moderator, the students will be required to carry out the following tasks: (1) Contact the speaker assigned to their session ahead of time, obtain the biographical information of all the assigned speakers for the day and confirm the order of the seminars, (2) Moderate the seminar session within the lecture timeline, (3) Ensure that the monitor and microphones are working well, (4) Introduce the speakers one at a time, (5) Keep speakers within the allotted time limit, (6) Anchor questions and answers session after the presentations, and (7) Conclude (or End) the seminar session. On the other hand, students assigned the role of a critique oversee the following tasks, namely (1) Use the Peer Critique Form to fill out the critique for all speakers in the assigned session, (2) The students may use Speaker Rubric I and II as guide in filling in the appropriate information, (3) The instructor will ask each student assigned the role of critique to discuss their observation in the class after the questions and answers session, and (4) Each student playing the role of a critique will submit the completed form to the university electronic Blackboard platform by the end of the lecture.

Students who are not comfortable with their assigned date are given room to make changes. However, such changes are guided by the date-changing policy of the faculty, in which students are only allowed to exchange a time slot with another student from the same group. In other words, a student in group A can only exchange time slots with another student in group A and the same principle applies to students in group B. Other rules that students who intend to swap time slots must observe include: (1) The student must contact both instructors about the exchange via email, (2) The emailing student must copy the other student involved in the exchange, (3) The email should contain the old and new dates for each student involved in the exchange, and (4) The exchange of time slots only becomes valid upon approval by one of the instructors. Furthermore, students who do not have any assigned role during the seminar presentations are encouraged to listen actively as was emphasized in the first lecture. It is important that the students making up the audience listen actively during the session because it can potentially affect the performance of the speakers, especially first-time presenters.

Faculty instructions

The faculty instructors are required to complete the electronic version of the rubric with comments on each category. The instructors can subsequently share the comments by way of

feedback with the students on a one-on-one basis if requested. Generally, the meetings are held twice at the beginning of the course. The first of such meetings serves to introduce the students to the course and take note of students' suggestions. Then, the follow-up meeting is usually held just before the students begin the presentation. Besides, these two initial meetings, the faculty instructors meet with the students at the end of the course to elicit feedback and take note of any suggestions on the way forward for the next academic year.

Student evaluation

In grading the students during the pharmacy seminar I, 60 points were assigned to the speaker role (presentation) and this grade point consisted of 36 points for the students' delivery skills and 24 points for the presentation content. The six-item rubrics for presentation delivery are rated on a six-point Likert scale (poor = 0, fair = 2, good = 4, excellent = 6). Similarly, the four-item rubrics for presentation content have a six-point Likert scale (poor = 0, fair = 2, good = 4, excellent = 6). The students are also awarded 15 points for the moderator/critique skills, while questioners from the audience would earn a maximum of 10 points. Moreover, in-class activity at the end of each seminar session earns the students 2 points. Additionally, 15 points are set aside for other activities to be determined by the course coordinator. To assess students' presentations, the rubric I (delivery skills) and rubric II (presentation content) are used. The rubric I evaluated the students' delivery skills in the following areas: eye contact/body language, preparedness/composure, articulation/volume, rate of speech, time limit, and question-answer ability. Rubric II assesses students' presentation content in the following areas: presentation well planned, organized/referenced, graphics/visual aids, slide format/slide spelling/grammar, and deadline. The students are rated "excellent, good, fair, or poor" in all areas evaluated for rubrics I and rubrics II. Meanwhile, rubric III (covers preparation, verbal/non-verbal language, and interaction/participation) and rubric IV (covers critique, verbal/non-verbal language, and deadline) are used for assessing students' roles as a moderator and critique, respectively. Regarding rubrics III and IV, the students are rated as "excellent, good, or fair" in all dimensions of moderating or critique role assessed.

In this study, a 15-item validated self-administered questionnaire was developed for the purpose of eliciting feedback from the students at the end of the seminar I course. The questionnaire consists of both close-ended (items 1-13) and open-ended questions (items 14 and 15). Most of the questionnaire items were rated on a 5-point Likert scale, ranging from "not at all = 1" to "extremely = 5," while others had varied responses. The questionnaire was subjected to face and content validity among senior academics in the Faculty of Pharmacy. Face and content validity were performed to ensure that the questionnaire items are appropriate, clear, and relevant to respondents and adequately cover all aspects of the construct being measured. The internal consistency of the questionnaire was within an acceptable limit, with a Cronbach's alpha of 0.844.

In pharmacy seminar II, the evaluation of students is performed using the eight-item presentation delivery and content rubrics rated on a 5-point Likert scale (poor = 0, good = 3, excellent = 5) with a maximum score of 40. The evaluation rubrics were adapted from a previously published study among Doctor of Pharmacy (PharmD) students in the United States.[16] The course coordinators discuss the entire grading system for the seminar with the students during the first lecture following the seminar series. The students are strictly warned of the consequences of plagiarism. The students are adjudged to have failed the seminar course if the similarity index exceeds 20%. Still, the course coordinator will report the names of the students involved in plagiarism to the Head of the Pharmacy Practice Department. The pass mark for the seminar course was 60%. Furthermore, any student who failed to turn up on his/her assigned presentation date is awarded zero on rubrics I and II. Nonetheless, students who missed their presentation dates are given a one-week period to send their excuse/reason for their absence to the Faculty Vice Dean of Academic Affairs. If the excuse is approved, the course coordinator will then reschedule his or her seminar date. Based on the number of students, a faculty member will be assigned to evaluate each group at the beginning of the academic year, and the contact information is sent to the leader and incorporated into the course assignment provided to them. At the end of the seminar course, the students' performance as evaluated with the rubrics for pharmacy seminars I and II was analyzed using descriptive statistics and the Fisher's exact test. Descriptive statistics (Frequency, Percent, Mean, Standard Deviation) were used to summarize students' performance across all the domains and items they were examined. On the other hand, the Fisher Exact test was used to test for the association between students' performance in presentation content and delivery style for seminars I and II, with their gender. The Fisher's exact test was used because of the small sample size and low counts in some of the cells (<5 counts per cell). Since the Fisher exact test does not rely on a large sample size and estimates the exact probability of observations, it is therefore appropriate for use in cases of small cell counts or uneven distributions. Probability values less than 0.05 were considered statistically significant.

Ethics Approval

The ethical approval for this study was deemed unnecessary by the Institutional Review Board of King Abdulaziz University, as the data were obtained as part of a routine evaluation activity for the Pharmacy Seminar-I (CP471) course, conducted by the Faculty of Pharmacy and stored in its Quality Assurance Unit's database. Furthermore, the conduct of the study conformed with the King Abdulaziz University ethical guidelines and adhered to the Declaration of Helsinki, 1975, as revised in 2000. Informed consent was obtained from all the pharmacy students who

participated in this study. The responses were anonymized and handled with utmost confidentiality.

RESULTS

A total of 114 undergraduate pharmacy students participated in the seminars I and II. Most students' presentations were well planned (84.9% vs. 88.5%) with the exception of three students whose presentations were adjudged poor. Female students had better graphics/visual aids compared to the male students (62.3% vs. 96.7%, $p < 0.001$). More than 78% of the students had an excellent slide format/slide spelling/grammar and students' performance was not associated with gender (79.2% vs. 78.7%, $p = 0.901$). A vast majority of the students met the deadline for submission given to them (96.2% vs. 95.1%). Overall, the students scored an average of 22.07 ± 4.53 points out of a maximum of 24, thus indicating that seminar I generally enhanced the presentation content of the students (Table 1).

Table 2 shows the students' performance in presentation delivery style in seminar I. The findings revealed that the students had much room for improvement in maintaining eye contact and body language and in keeping to the time limit for the presentation. Approximately 53% of all the students maintained excellent eye contact and body language during their presentation. With respect to the time limit, less than half of all the students (about 49%) performed excellently well in keeping with the allotted time for the presentation. A higher proportion of male students significantly performed better than female students in the areas of preparedness/composure (98.1% vs. 67.2%, $p = 0.001$), articulation/volume (92.5% vs. 52.5%, $p = 0.001$), and rate of speech (94.3% vs. 75.4%, $p = 0.001$). An overwhelming majority of the students had excellent question-answer ability during the presentation in pharmacy seminar I (98.1% vs. 96.7%, $p = 0.720$). In summary, the students had an average score of 31.18 ± 6.00 over a maximum point of 36. The observed mean score provided evidence that the pharmacy seminar I improved the presentation delivery style of the students.

The student's performance in the role of a moderator or a critique in Seminar I was also assessed. The possible score range was between 0 and 15. About nine students (6 males and 3 females) had a zero score for the moderator/critique rubrics. Overall, most students scored the maximum point of 15 in the moderator/critique component (84.2%) and the mean score was 13.62.

In seminar II, the students' performance for presentation content is shown in Table 3. A vast majority of the students excelled in the area of slide submission (100.0% vs 90.2%, $p = 0.061$), use of visual aids (90.6% vs. 93.4%, $p = 0.559$), and originality (100.0% vs. 96.7%, $p = 0.284$). Female students outperformed male students in the area of slide format/slide spelling/grammar (71.7% vs. 91.8%, $p = 0.003$), the relevance of the topic to the pharmacy profession (79.2% vs. 96.7%, $p = 0.001$), and content accuracy (81.1% vs. 95.1%, $p = 0.009$). Regarding audience engagement, the male students performed better than the female students (96.2% vs. 83.6%, $p = 0.023$). However, the overall mean score for all students for the presentation content in seminar II was 37.53 ± 6.05 over a maximum score of 40. Overall, female students significantly improved in presentation content after participating in pharmacy seminar I.

Table 4 shows the performance of the students regarding presentation delivery style in the pharmacy seminar II. Nearly all the students were punctual on the day of the presentation (100.0% vs. 95.1%, $p = 0.498$). The majority of the students kept to the time limit for the presentation and there was no disparity across genders (79.2% vs. 62.3%, $p = 0.103$). Female students outperformed male students in the area of body language (34.0% vs. 78.7%, $p < 0.001$), articulation/volume/fillers (54.7% vs. 82.0%, $p < 0.001$), rate of speech (58.5% vs. 85.2%, $p = 0.001$), preparedness/composure (45.3% vs. 85.2%, $p < 0.001$), and completeness (54.7% vs. 93.4%, $p < 0.001$). The students had an average score of 34.02 ± 6.67 out of a maximum of 40. Overall, female students significantly improved in presentation delivery style after seminar I.

DISCUSSION

In the present study, the pharmacy seminar I as designed and implemented at the Faculty of Pharmacy, King Abdulaziz University facilitated students' development of critical soft skills like planning, slide formatting, and meeting deadlines. This is in line with previous research that emphasizes the value of these

Table 1: Students' Performance on Evaluation Rubric for Presentation Content in Seminar I.

Item	Male (*n*, %)				Female (*n*, %)				*p*-value
	Poor	Fair	Good	Excellent	Poor	Fair	Good	Excellent	
Presentation well planned, organized/Reference	2 (3.8)	0 (0.0)	5 (9.4)	45 (84.9)	1 (1.6)	0 (0.0)	5 (8.2)	54 (88.5)	0.802
Graphics/visual aids	3 (5.7)	4 (7.5)	12 (22.6)	33 (62.3)	1 (1.6)	0 (0.0)	0 (0.0)	59 (96.7)	<0.001
Slide Format/Slide spelling/grammar	1 (1.9)	0 (0.0)	8 (15.1)	42 (79.2)	1 (1.6)	0 (0.0)	11 (18.0)	48 (78.7)	0.901
Deadline	1 (1.9)	0 (0.0)	0 (0.0)	51 (96.2)	1 (1.6)	0 (0.0)	1 (1.6)	58 (95.1)	1.000
Overall students' mean score = 22.07 ± 4.53; Maximum score = 24.									

Table 2: Students' Performance on Evaluation Rubric for Presentation Delivery Style in Seminar I.

Item	Male (*n*, %)				Female (*n*, %)				*p*-value
	Poor	Fair	Good	Excellent	Poor	Fair	Good	Excellent	
Eye contact/Body Language	3 (5.7)	4 (7.5)	17 (32.1)	28 (52.8)	1 (1.6)	6 (9.8)	21 (34.4)	32 (52.5)	0.730
Preparedness/Composure	1 (1.9)	0 (0.0)	0 (0.0)	52 (98.1)	1 (1.6)	2 (3.3)	16 (26.2)	41 (67.2)	0.001*
Articulation/Volume	1 (1.9)	0 (0.0)	3 (5.7)	49 (92.5)	1 (1.6)	4 (6.6)	23 (37.7)	32 (52.5)	0.001*
Rate of Speech	1 (1.9)	0 (0.0)	2 (3.8)	50 (94.3)	1 (1.6)	1 (1.6)	12 (19.7)	46 (75.4)	0.011*
Time Limit	3 (5.7)	11 (20.8)	13 (24.5)	26 (49.1)	2 (3.3)	10 (16.4)	17 (27.9)	30 (49.2)	0.846
Question answerability	1 (1.9)	0 (0.0)	0 (0.0)	52 (98.1)	1 (1.6)	0 (0.0)	0 (0.0)	59 (96.7)	0.720
Overall students' mean score = 31.18 ± 6.00; Maximum score = 36.									

Table 3: Students' Performance on Evaluation Rubric for Presentation Content in Seminar II.

Item	Male (*n*, %)			Female (*n*, %)			*p*-Value
	Poor	Good	Excellent	Poor	Good	Excellent	
Slide submission	0 (0.0)	0 (0.0)	53 (100.0)	2 (3.3)	4 (6.6)	55 (90.2)	0.061
The use of visual aids (PowerPoint)	1 (1.9)	4 (7.5)	48 (90.6)	2 (3.3)	2 (3.3)	57 (93.4)	0.559
Slide format/slide spelling/ grammar	1 (1.9)	14 (26.4)	38 (71.7)	2 (3.3)	3 (4.9)	56 (91.8)	0.003*
Relevance to the profession of pharmacy	1 (1.9)	10 (18.9)	42 (79.2)	2 (3.3)	0 (0.0)	59 (96.7)	0.001*
Content accuracy	1 (1.9)	9 (17.0)	43 (81.1)	2 (3.3)	1 (1.6)	58 (95.1)	0.009*
Text-font & formatting	1 (1.9)	15 (28.3)	37 (69.8)	2 (3.3)	12 (19.7)	47 (77.0)	0.530
Audience engagement	2 (3.8)	0 (0.0)	51 (96.2)	3 (4.9)	7 (11.5)	51 (83.6)	0.023*
Originality	0 (0.0)	0 (0.0)	53 (100.0)	2 (3.3)	0 (0.0)	59 (96.7)	0.284
Overall students' mean score = 37.53 ± 6.05; Maximum score = 40.							

Table 4: Students' Performance on Evaluation Rubric for Presentation Delivery Style in Seminar II.

Item	Male (*n*, %)			Female (*n*, %)			*p*-value
	Poor	Good	Excellent	Poor	Good	Excellent	
Punctuality	0 (0.0)	0 (0.0)	53 (100.0)	2 (3.3)	1 (1.6)	58 (95.1)	0.498
Eye contact	5 (9.4)	31 (58.5)	17 (32.1)	4 (6.6)	27 (44.3)	30 (49.2)	0.193
Body language	1 (1.9)	34 (64.2)	18 (34.0)	2 (3.3)	11 (18.0)	48 (78.7)	<0.001*
Articulation/volume (vocalized) pauses/fillers	0 (0.0)	24 (45.3)	29 (54.7)	2 (3.3)	9 (14.8)	50 (82.0)	<0.001*
Rate of speech	1 (1.9)	21 (39.6)	31 (58.5)	2 (3.3)	7 (11.5)	52 (85.2)	0.001*
Preparedness/composure	2 (3.8)	27 (50.9)	24 (45.3)	3 (4.9)	6 (9.8)	52 (85.2)	<0.001*
Completeness	2 (3.8)	22 (41.5)	29 (54.7)	2 (3.3)	2 (3.3)	57 (93.4)	<0.001*
Time limit	2 (3.8)	9 (17.0)	42 (79.2)	8 (13.1)	15 (24.6)	38 (62.3)	0.103
Overall students' mean score = 34.02 ± 6.67; Maximum score = 40.							

abilities in pharmacy education.[15] According to earlier research, soft skills are just as important for pharmacy students as technical knowledge since they help them communicate, manage their time, and collaborate with others in a professional situation.[11] Students in the health sciences who took similar seminar-based courses reported feeling more prepared for their future roles, particularly in terms of effectively and professionally communicating complex subjects.[17] Incorporating organized instruction in deadline management and presentation into the pharmacy curriculum not only improves these vital abilities but also gets students ready for the professional demands of healthcare settings. Effective patient counselling and interprofessional teamwork in pharmacy practice depend heavily on soft skills like time management and presentation planning.[18] These findings emphasize the need for pharmacy schools to incorporate soft skill-focused courses in order to better prepare students for a variety of professional roles.

Students' presentations during the pharmacy seminar I highlighted deficiencies in eye contact, body language, and adherence to time limits among the students. Maintaining eye contact and using appropriate body language is critical for effective patient interactions and professional presentations. These soft skills are integral to a pharmacist's ability to convey information effectively, foster patient trust, and enhance educational outreach.[9] The students significantly improved in some of the observed challenges in the pharmacy seminar I. For instance, nearly all the students were punctual and kept to the time limit during pharmacy seminar II presentations. These findings underscore the importance of implementing structured feedback sessions, role-playing, and other active learning techniques that may improve students' presentation skills and confidence, which are indispensable for their professional success.[19] The early introduction of structured communication training in pharmacy curricula appears advantageous in preparing pharmacy students for real-world demands.

The current study observed that female students excelled in presentation organization, content relevance, and accuracy while male students showed stronger audience engagement aligns with existing literature on gender differences in academic performance and communication skills.[20] Studies suggest that female students often demonstrate greater attention to detail, especially in written work,[21] which can translate into improved slide formatting and accuracy in content. This strength in precision and organization may reflect a broader trend of meticulousness commonly noted among female students, who are generally observed to outperform in accuracy and detail-oriented tasks. A similar finding was reported by Graf and colleagues in their study assessing gender-specific difference in communication skills among medical students.[22] The observation that female students were better than their male counterparts in slide formatting, spelling and grammar, topic relevance, and content accuracy may be attributed to differences in learning approaches, academic diligence, and attention to detail. Also, likely, female students engaged more consistently in background reading and verification of information, which could explain the higher accuracy of content and stronger linkage of topics to pharmacy practice. These factors, combined with structured assessment criteria in the seminar course, likely favored skills related to organization, precision, and content mastery, resulting in the observed performance differences.

On the other hand, male students' superior audience engagement may be associated with confidence in verbal communication and comfort with public speaking, a skill observed in some studies where male students score higher in communicative assertiveness and audience connection.[23,24] These findings highlight the importance of a balanced skillset in pharmacy education, where both meticulous content preparation and effective communication are crucial. Pharmacy educators should consider incorporating targeted training to strengthen both content creation and audience engagement skills across genders, potentially using peer feedback and simulation activities to promote a comprehensive approach to professional presentation. However, these findings should be interpreted cautiously, as they may also be influenced by assessment design favoring written and content-focused competencies, potential examiner bias, or unmeasured factors, including prior presentation experience, highlighting the need for balanced instructional strategies that support all students across diverse performance domains.

STUDY LIMITATIONS

This study had a few limitations that should be considered while interpreting its findings. First, the evaluation of the impact of seminar courses on students' presentation skills focused on a particular cohort of students, who were observed for a period that might not have been adequate to capture the long-term effect of the seminar courses on students' presentation skills or performance. Secondly, there were variations in the evaluation rubrics and feedback methods used for seminar I and seminar II by the faculty instructors and this has the potential to introduce inconsistencies, thus affecting the evaluation of students' presentation skills and content quality. Additionally, the study did not take into consideration other factors that could potentially affect students' presentation delivery style and content such as prior public speaking experience, extracurricular activities, or personal confidence. Lastly, the current study had no comparison group that did not undergo the seminar course. Hence, it would be difficult to attribute improvements observed in students' presentation delivery style and content solely to the seminar course rather than other concurrent educational experiences.

CONCLUSION

The design and implementation of the undergraduate seminar course at the Faculty of Pharmacy, King Abdulaziz University, Saudi Arabia, have shown significant improvements in students' presentation skills, both verbal and nonverbal, critical to their future professional roles. To a large extent, the student demonstrated proficiency in slide design, content relevance, and audience engagement. The gender-based findings highlight important considerations for personalized support; while male students displayed strengths in composure and delivery, female students excelled in content accuracy and format quality. These insights provide valuable guidance for refining the course to better cater to students' diverse strengths and address specific needs. Future multicenter studies are needed to further explore the role of gender in soft skill acquisition following seminar courses in pharmacy schools. Meanwhile, continued course adjustments and assessments will ensure that the seminar effectively prepares pharmacy students for the demands of the profession, promoting confidence, competency, and professionalism in their communication abilities.

ACKNOWLEDGEMENT

The author would like to acknowledge Sainsearch Academy for providing professional manuscript editing and linguistic review service.

ABBREVIATIONS

CP 471: Course Code for Pharmacy Seminar I; **CP 572:** Course Code for Pharmacy Seminar II; **IRB:** Institutional Review Board; **PharmD:** Doctor of Pharmacy; **P:** Probability; **Q&A:** Question and Answer.

CONFLICT OF INTEREST

The author declare that there is no conflict of interest.

SUMMARY

Pharmacy education is evolving worldwide and there is an increasing need to equip pharmacy undergraduate students with soft skills. A seminar course was developed and implemented to enhance verbal and nonverbal presentation skills among undergraduate pharmacy students at the Faculty of Pharmacy, King Abdulaziz University, Saudi Arabia. The course (seminar I and seminar II) was designed to cover various aspects of presentation and communication skills essential for pharmacy practice. The students were evaluated on preparedness, articulation, volume, speech rate, content accuracy, originality, and ability to choose relevant topics. Overall, 114 undergraduate pharmacy students participated in the study. Male students exhibited better presentation styles, preparedness, composure, and audience engagement in Seminar I, while female students excelled in slide formatting, spelling, and content relevance in Seminar II. Furthermore, the seminar II phase brought significant improvements across the cohort, particularly in the use of visual aids and originality of work, with a more balanced performance between genders in most assessment criteria. Therefore, the newly developed seminar course could serve as a framework for integrating presentation and communication skills training into pharmacy curricula across similar academic settings.

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Cite this article: Diri R. Development and Implementation of Undergraduate Seminar Course in the Faculty of Pharmacy, King Abdulaziz University, Saudi Arabia. Indian J of Pharmaceutical Education and Research. 2026;60(4s):s1396-s1404.