Description of an Introductory Course Designed to Socialize Pharmacy Students

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This paper describes an introductory course designed to socialize first-year PharmD students. The course was delivered 6-7 hours daily for two weeks. Students had to attend all assigned sessions and complete all assigned work in order to successfully pass the course and officially enter the professional curriculum. The course used a combination of large group discussions and small team exercises. These were designed to provide active learning strategies, but to also orient the students to the type of instruction and team exercises they would have during the remainder of the curriculum. Topics discussed included roles of faculty, responsibilities of different types of pharmacists, time management, active learning strategies, the curriculum, developing a personal mission statement, pharmaceutical care and drug misadventuring. Ninety-one students were enrolled in the course and they all successfully completed this course. The course was very well received by the students based upon the enthusiasm in the course and written evaluations. The highlight of the course for many students was a white coat ceremony at the end that symbolized their passage into the professional program. This introductory course has been one factor that has improved the professionalism of the students and it may be useful to other colleges and schools of pharmacy.

INTRODUCTION

In 1990, the American Association of Colleges of Pharmacy Commission to Implement Change in Pharmaceutical Education published the results of its deliberations(1,2). In addition to serving as the primary force to move towards entry-level Doctor of Pharmacy (PharmD) education, the Commission recommended specific curricular process, content and outcomes. Several of these recommendations did not include only traditional scientific comprehension, but also related to the socialization and professionalization of students including communication abilities and professional ethics. The Commission also recommended that graduates have a contextual competence or an understanding of the roles that pharmacists play in the health care system. Another recommendation involved instilling a professional identity and a pride in the profession. In addition, the Commission recommended that pharmacy graduates master social interaction skills, foster a sense of citizenship and develop effective interpersonal and intergroup behaviors in a variety of situations.

Building upon the work of the Commission, a committee appointed from the Council of Faculties provided specific recommendations for the professional socialization of pharmacy students(3). This committee recommended that professional socialization of students must be integrated throughout the curriculum in a systematic fashion.

In the past, many students were not properly socialized into the profession early in their academic curriculum(4-11). Frequently, they had limited understanding or appreciation for the profession until the end of the curriculum. All too often, students were not required to write, communicate or work in groups or teams until the last year of the program. In many cases, students had inadequate communication and interpersonal skills which became particularly evident on clerkships.

As a result, some students developed poor attitudes towards the academic program and the profession. While these are our observations, colleagues around the country have voiced similar concerns.

In 1999, the University of Colorado Health Sciences Center School of Pharmacy enrolled its first entry-level PharmD class. While the School had conducted Pharm.D. education for several years, the School implemented a completely new curriculum that was radically different from the previous program. The faculty adopted an ability-based curriculum(12). This included major integration of basic, clinical and administrative sciences in every semester of the curriculum (except the terminal year of clerkships). Each of the first six semesters also includes a skills course which supplies practical applications and integration of courses within a given semester. The students also have experiential (half-day) activities and seminar in each of the first six semesters. In addition, the faculty chose to utilize a combination of didactic instruction (ideally with significant discussion and problem-solving) with small-group problem-based learning.

In the previous curriculum, students received a two-day orientation. However, the faculty felt that the previous curriculum did not provide the students with a good working knowledge of school or professional issues until too late in the program. Thus, it was decided to add a two week course entitled "Introduction to Pharmacy Practice and Education." This course was designed to not only socialize students into the profession, but also to have them begin to quickly develop positive attitudes and appropriate academic skills that would allow them to be successful in the new curriculum. This paper reports the structure and outcomes of the course for the 1999-

2000 academic year.

METHODS

Once the curriculum was approved by the faculty, teams were appointed for each course and course sequence. The team for the Introduction to Pharmacy and Education course consisted of six members. Following several team discussion on the outcome objectives for the course, one team member (BLC) took primary responsibility for preparing them for the team. In addition, a general syllabus for the course was also prepared. These materials were presented first to the curriculum committee and then taken to the entire faculty for approval. Following the addition of suggestions from the curriculum committee and the faculty, the final objectives and topics (Appendix A and B) were prepared. The entire process took approximately four months and approximately 60 hours of work (all team members) not including preparation of actual class materials.

Introduction to Pharmacy Practice and Education was a two credit course that was graded pass/fail. The course was given the two weeks prior to the official start of fall classes so no time was taken away from other new courses in the fall curriculum. Attendance at all activities was required in order to pass the course. The course met from 8:30 AM until 3:30 PM including breaks. The computer skill testing and some other activities were held from 3:30 PM until 4:30 PM. In addition, students were required to successfully complete all assignments and pass all quizzes and skill activities. Although the students are formally admitted into the School of Pharmacy, they were informed that they had to pass Introduction to Pharmacy and Education in order to proceed into the pharmacy program. In theory, if they did not pass this course, they would not be allowed to proceed in the program and would have to re-enroll the following year.

In the first year the course was offered, two faculty (BLC and BJB) served as coordinators and principal teachers for the course. Two faculty assisted with medical terminology (CLH) and the assessment of computer skills (RJV). All faculty were invited to participate and as a result numerous other faculty served as facilitators for small group exercises.

This course used a combination of large group didactic discussions, small group problem-based learning, self-learning and outside activities. The focus of the course was to provide students the opportunity to be socialized into the profession and to learn the basic skills needed for success in the professional pharmacy curriculum and in their academic careers. The specific goals of this course are to provide the student with:

1. an orientation to campus life and responsibilities as a student, colleague and professional.
2. practice and assessment of selected basic skills in the areas of:
   A. computer
   B. writing
   C. group interactions
   D. medical terminology
   E. time management
3. techniques to begin their development of professional and ethical values.
4. a better understanding of the scope of academic life, academic roles and the roles of various pharmacy professionals.

The ability-based outcomes including knowledge, skills and attitudes for the course are displayed in Appendix A. The required texts and materials for the course were: an IBM compatible personal computer, the book *The 7 Habits of Highly Effective People*(13). Background Papers I and II from the Commission to Implement Change in Pharmaceutical Education(1,2) and a hip-length white laboratory coat (the latter needed for the last day of the course only).

Following health screening and composite pictures, the course began as outlined in Appendix A. Most of the specific aspects of the course content are described here. There were several discussion sessions on medical terminology during the course. Students were required to perform individual self-study of medical terminology. They had to successfully complete three quizzes on medical terminology. The students also had to individually sign up for a testing session in which they demonstrated the computer skills outlined in Appendix A (2.B.1). The students were also introduced to the school's administration including department chairs, assistant and associate deans and the dean.

On the first day all students were together (day 2), they broke into pairs. They were provided with specific questions to ask their partner (pair and share). These were intended to identify some personal aspects about the students such as their favorite class in school, where they were from, the best book they read last and other similar questions. In an attempt to break up the time in discussions, the class coordinator would pause periodically during the discussion and ask for several people to introduce their partner and how they answered the various questions that were provided. This was done randomly throughout the day and throughout the course to break up the discussion.

On day 3 there was a discussion on pharmaceutical care and proper team etiquette. The class was divided randomly into 15 teams of six students each. Each student took a turn as team leader (facilitator) for one of the team discussions. The team leader was responsible for asking questions and directing the discussion. At the end of the discussion, the team leader evaluated each of the team members on their participation. Each team leader scored all of their team members during each team activity. Each question was scored on a zero to five scale with a maximum of 20 points available to each team member (other than the leader). The questions asked of the team leader were:

- The student was actively involved in the discussion (carried their own weight).
- The student was respectful of the views and opinions of the other group members.
- The student contributed to the discussion without trying to dominate or force their ideas on the group.
- I feel that this student's input has increased my understanding and improved my ability to complete this assignment.

The team members evaluated each team leader on their ability to lead the team. Each team member scored their team leader during each team activity. Each question was scored on a zero to five scale with a maximum of 20 points available to each team leader. The questions posed to the team members were:

- The team leader was a good facilitator and kept the group on track.
- The team leader did a good job of insuring that every

member of the team had input into the discussion.
- The team leader asked us plenty of questions to keep the discussion moving.
- The team leader did not monopolize the session.

In addition to these numerical scores, each team leader and team member, respectively, were strongly encouraged to provide constructive, written comments to the person they were evaluating. To insure anonymity, the handwritten comments were typed and all numerical scores were compiled by an administrative assistant. The students then received this feedback within a week of each team session so that they would be able to use the information to improve their team performance throughout the course and the remainder of the curriculum.

On day 3, the teams were randomly assigned one of several brief descriptions of pharmacy careers. These included community, hospital, managed care, primary care and industry. In addition to the description, several questions were posed to the team to facilitate their discussion. A faculty facilitator also worked with the group to help them keep on track. These discussions were not meant to provide a complete description of these potential roles but rather to stimulate the curiosity of the students. The sessions were also designed to have the students work in their teams that they would remain with for the entire semester. All team activities were designed to develop active learning strategies. Finally, half the teams were randomly selected and one team member presented the team's thoughts and findings on career opportunities. Gaps or inaccuracies were corrected by the course coordinator.

There were several sessions devoted to the design of the curriculum and the expected curricular outcomes. Prior to day four, students were required to read the mission statement for the School of Pharmacy, the abilities-based outcomes for the curriculum and Background Papers I and II from the Commission to Implement Change in Pharmaceutical Education(1,2). On day four there was an initial discussion on the philosophy and structure of the curriculum from one of the course coordinators. The class was then broken into their teams and given specific questions to consider and try to answer concerning the curriculum and the purpose of various components of the curriculum. These sessions were designed to link the profession-wide principles with the school's outcome statements and the physical curriculum for the students. Finally, there was an open discussion with the curriculum committee to answer the numerous questions that the previous sessions generated from the students active learning sessions. The students were then required to prepare a one page, typed write-up on their findings concerning their expectations of the curriculum. This was graded pass/fail and was designed to initiate early writing exercises into the curriculum.

The students were provided with the syllabus several weeks in advance and were asked to read 167 pages from the book by Covey prior to the course(13). On days 4 and 5, there were class discussions and team exercises on the concepts of values and principles for successful individuals. It was clear from the lively discussion (and the fact that numerous students suggested this was the best book they had recently read) that the majority had done the reading in advance. Following the team exercise, half the teams were randomly selected and one team member presented the team's findings.

Another aspect of the required reading from the book was a discussion of time management based upon principles, values and priorities. This led to a discussion of time management and study habits by upper classmen and then by faculty. Since the faculty had observed numerous examples of excessive outside work on the part of the students, this was openly discussed. The students were informed that work, especially in a pharmacy, could improve their learning experience. They were cautioned, however, that the curriculum was rigorous and that they should not work more than 8-10 hours per week. Finally, the required readings from the book discussed personal mission statements. The students were required to type a one page (or less) personal mission statement that dealt with both their professional and personal missions.

Most of the sixth day focused upon giving the students a better appreciation of the faculty and their roles and responsibilities (teaching, research and patient care roles). First, the teams were provided with a brief description of various faculty types followed by a series of questions for the team to consider. Faculty facilitators were present to provide guidance but they were not supposed to "give all the answers." The faculty examples included social and administrative sciences, basic sciences and clinical sciences faculty. Since postdoctoral residents and fellows provide some teaching at our institution and they have a title of clinical instructor, these two roles were also assigned to some teams. Some of the questions included the education and training required to assume various faculty positions. This session was designed to raise questions in the students' minds rather than provide all the answers. By considering the questions, it was hoped that it would stimulate additional curiosity about the backgrounds and responsibilities of the faculty. Each team selected a team leader to present the findings of the team and comment on questions they were unable to answer. Following this session, each student prepared a typed one-page write-up on the faculty type that was assigned to their team and how the team had answered the questions provided. Following the team presentation, the students were provided with a list of faculty and a separate list of various personal or professional characteristics that distinguished specific faculty members. As teams, they then conducted a "scavenger hunt" to identify the various faculty members. The comments related to given faculty were related to their practice, research or hobbies. They did this by going to each faculty member's office to try to identify the comment that identified each faculty member. At the end of the sixth day, the student organizations held a social to encourage the new students to join various professional organizations.

Day 7 was devoted to ethics and the student honor code. First, members of the state board of pharmacy provided their perspectives on ethics and legal violations. The students were then provided with an in-depth discussion of the School of Pharmacy Student Ethics and Conduct Code. At the end of this discussion, they were required to sign the code. Next, there was a team exercise on a violation of the ethics and conduct code. This was followed by a mock honor code violation trial conducted by members of the Ethics and Conduct Committee. The example was a case of plagiarism. Finally, the students were provided with names of several pharmacists who had been disciplined by a state board of pharmacy. The students were required to go to the state board's Web page and look up the disciplined pharmacists. This latter activity was designed to demonstrate the public nature of disciplinary actions against pharmacists. It was also designed to be sure that the students could successfully use their computers to get onto the internet. The students were then assigned to turn in a report on their findings from the internet exercise.

Table I. Demographic data for the 91 students

Ages (years):	Mean	SD	Median
Female	26.8	5.9	25.0
Male	27.8	6.3	26.5
Total	27.1	6.0	26.0
Gender:			
Female	63 (69%)		
Male	28 (31%)		
Ethnicity:			
White	48 (53%)		
Asian	19 (21%)		
African American	11 (12%)		
Hispanic	8 (9%)		
Native American	2 (2%)		
Foreign	3 (3%)		

Table II. Prior academic degrees and credit

Associate of Arts or Associate of Science:	4 (4.4%)
Bachelor of Arts or Bachelor of Science:	23 (25.2%)
Prior Academic Credit hours for the other 64 students:	
60-90 hours	11 (12.1%)
91-120 hours	23 (25.2%)
over 120 hours	30 (33.0%)
Total	91 (99.9%)

Table III. Student peer evaluations

	Scores leaders gave team members[a]	Scores team members gave leaders[b]
Mean	17.68	4.18
SD	1.47	0.38
Minimum+	15.4	2.7
Maximum++	20.0	4.7

[a] Mean value represents the mean of all values given to all students over the entire course. The minimum possible was zero and maximum was 20.

[b] Mean value represents the mean of all values given to each team leader over the entire course. The minimum possible was zero and the maximum was 5.

+ - Minimum score given to any individual student.

++ - Maximum score given to any individual student.

Because working in groups is an critical part of the newly developed curriculum, it is essential for our students to develop effective team skills. Their behaviors will contribute to the success or failure of the team. To assist the students undertaking the task of self-improvement, we invited a consultant to present the Roche Personal Profile System. This program was sponsored by the Roche Pharmaceutical company. The program consists of a half-day presentation. The goals of the program are to: (*i*) Discuss the characteristics of effective healthcare teams; (*ii*) Identify barriers to effective teamwork; (*iii*) Identify, understand and appreciate personal styles; (*iv*) Explore and evaluate strategies and tactics for team performance; and (*v*) Enhance personal effectiveness in teams by improving relationships. A discussion regarding teams introduces this program. Students are asked to describe what makes up a team, discuss different types of healthcare teams and critique the characteristics of unproductive versus productive teams. This discussion is followed by the DiSC, (Dominance, Influence, Conscientiousness and Steadiness) exercise. The students complete a worksheet by recording their responses to several descriptive words in which they feel most and least describe them. After the responses are tallied, the students then score and graph the results. Each graph depicts a certain behavioral tendency and provides an integrated interpretation of an individual's behavioral style. Fifteen classical patterns are represented in the graphing process and each describes the behavior of people with a specific blend of the four DiSC behavioral styles or dimensions. This system is designed to assist the students in understanding their personal style by increasing their knowledge of their own unique behavior patterns. The objective of this exercise is to provide an interpretation of not only a personal style but to assist individuals to gaining an appreciation for the different styles of their team members, other classmates and eventually their co-workers.

The California Critical Thinking Skills Test (CCTST) was also administered to the students. The scores from the examination will be used for future evaluation and assessment as the students continue through the program. It is anticipated it may offer some insight in predicting students' success in the new curriculum.

Following the CCTST, the Colorado Pharmacist's Recovery Network (CPRN) made a presentation to the class. These speakers introduced information regarding support services they provide to pharmacists in the community. The representatives from the CPRN also stressed the importance of awareness of the high incidence of substance abuse in health care practitioners and the students' role in identifying potential abuse in their patients, peers and even themselves.

The ninth day was devoted to learning strategies. There was a discussion on Bloom's taxonomy of learning to design behaviorally based objectives. The goal of this discussion was to inform students about how to evaluate objectives provided in their courses to interpret the level and to better prepare for examinations and team exercises. Next, the teams were asked to discuss questions related to learning strategies. This session was facilitated by upper classmen. This was followed by a discussion of active learning strategies. This included tips on notetaking, seeking additional readings other than those that are required and preparing for examinations in an effort to retain information for use in future courses.

On the final day of the course, the students were required to attend class in business attire. The day began with a discussion of drug misadventuring and the scope of the problem of drug use in the United States. This was followed by a team exercise on drug misadventuring. These two activities were designed to introduce the concept of the pharmacist's societal obligation to identify, resolve and detect drug-related problems(14-16).

The last event of the course was designed to symbolize the passage from a lay person to a professional and also the successful entry into a professional school. This was a "white coat ceremony" similar to a graduation. Students came with their white laboratory coats but were told not to wear them. As each student's name was called, a faculty member assisted them with putting on their white coat and numerous faculty were present to shake their hands. Pictures of the ceremony were taken and the students were congratulated on their accomplishments.

There were several methods used to assess the outcomes of this course. This course was different from other courses in the curriculum and it was designed to build the students' pride in the profession and to instill self-confidence. Therefore, the assessments were not the traditional assessments used by the school. Students were asked to provide feedback on every aspect of the course and on each session.

RESULTS

There were 91 students enrolled in the course. The mean age of the class was 27.1 years (SD 6.0, median 26.0 years). Other demographic information on the class appear in Table I. Table II lists the numbers of students with prior academic degrees. Table II also displays the amount of previous course credit students had achieved prior to their enrollment into the School of Pharmacy. These data suggest that the class already had extensive academic experience and that there were many mature students. All students successfully completed all exercises and passed the course. One student had to repeat one of the medical terminology quizzes to successfully pass this section.

Table III displays the means and standard deviations for the peer scores that the team leaders gave to individual team members. It also displays the scores the team members gave to the team leaders. While the scores seemed to reflect generous "grading" there were numerous cases when individual students provided low scores to their peers. The lowest scores, from individual scorers, were 7/20 for team members and 8/20 for team leaders. In addition, there were numerous written comments. While these frequently were comments such as "all of my team members are great" or "everyone contributed a lot to this session", there were critical comments. The critical comments were usually directed at team members who were quiet and did not contribute much to the discussion or to team leaders who did not seem to really facilitate the discussion. Generally, these comments were constructive and not abrasive. Fifty-two of the 91 (57 percent) students responded with written feedback on the course. Not all students responded to each question in the evaluation. The feedback was generally very favorable. For the medical terminology sessions 44/46 respondents suggested that the material should be retained in the course and that it was very valuable. All 50 students indicated that the self-study materials for medical terminology were extremely valuable. All 48 respondents enjoyed the pair and share exercise and found it to be a very good ice-breaker and a good way to get to know their classmates. All 49 students enjoyed the introduction to the School of Pharmacy administration. The only critical comment was that more faculty (non-administrators) should have been present.

Thirty-five of 41 indicated that the computer skills assessments were valuable. They had many suggestions concerning the logistics of this exercise. They also noted that many of the students were already proficient with computers but they acknowledged that these skills must still be assessed.

Other areas that received very favorable comments included the topics on pharmaceutical care, working in teams (responsibilities and decorum), career options, discussions on ethics, active learning strategies, drug misadventuring and the 7-Habits of Highly Successful People. Numerous students commented that the book (Covey) was inspiring and that it was the best book they had recently read. The students also highly valued the time they had with upper classmen. Interestingly, one of the very enjoyable exercises was the scavenger hunt to various faculty. Finally, all of the respondents found the white coat ceremony inspirational and very motivational. Comments included that the white coat ceremony "gave me a sense of accomplishment (2x)", "this really set the mood for our future," "it really gave me a true will to succeed...." "this made me feel as though I was a part of a new birth for pharmacy" and "gave me a sense of belonging."

The students were critical of several sessions and assignments. While many felt Background papers I and II were excellent, 12/49 suggested that this assignment should be deleted from the course. While the majority of students valued the discussions on time management, 17/49 suggested that this material was unnecessary and that they already knew how to manage their time. The topic with the greatest dissatisfaction was the critical thinking assessment in which 20/41 respondents suggested that this was too long and should be deleted.

The students were given an opportunity to provide general comments. All seemed to highly value the course and the enthusiasm of the faculty. It is unlikely that the faculty were more enthusiastic than in the past, rather, the students had more direct contact with numerous faculty early in their program. The major criticism was that the course was too long and there were redundant activities and discussions. The students who made these comments apparently did not appreciate that this redundancy was intentional to reinforce both discussions and active learning strategies (rather than just provide rote memorization exercises). Other suggestions primarily focused upon the desire on the part of the students to have more social activities and outings to get to know their classmates better.

DISCUSSION

This paper describes an Introduction to Pharmacy an Education course that was designed to provide professional socialization and coping strategies for incoming PharmD students. Generally, the students found this course to be valuable and they provided extremely positive comments on the vast majority of the activities. Anecdotally, numerous faculty have commented about the fact that these students seem to have much better professional attitudes than previous classes. However, we simultaneously initiated a new comprehensive admissions process (with interview, written exercise and group dynamics exercise) and it is difficult to determine whether the Introduction to Pharmacy and Education course was responsible for these observations by the faculty.

Several students did not find the time management discussions helpful. These comments may have come from more mature students who may already have other degrees (Table III). This is, however, speculation.

This course purposefully used some redundancy to increase understanding and retention. This was done by having a discussion followed by team exercises. The team exercises were then followed by a brief presentation by selected groups and then a brief write-up by each student that described the experience. While most students seemed to understand and value this learning process some students felt that too much time was devoted to some of the topics.

We believe this introductory course has helped to socialize students at our school. Following their first full semester, it appears that these students have a much better appreciation of the school, curriculum, faculty and the profession. They also have a much better appreciation for their classmates. It is our belief that many of these concepts may be useful to other colleges and schools of pharmacy.

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APPENDIX A. ABILITY-BASED OUTCOMES

1. Campus Life and Student Responsibilities Ability-based Outcome: Identify and describe important aspects of the Health Sciences Center campus and the roles of the professional student.

   A. Knowledge:
   1. Demonstrate a knowledge of campus life and the expectations of the professional student that are unique to a Health Sciences Center.
   2. Identify the important on-campus offices and their functions (ID office, Parking Services, Bookstore, Printing Services, Educational Support Services).
   3. Identify the faculty and staff and their different roles within the School of Pharmacy.
   4. Understand your personal learning and work style with which you are most comfortable.
   5. Identify the other types of learning and work styles that other students prefer.
   6. Identify the important elements of good interpersonal and group communication.
   7. Describe the elements of an effective student learning group.
   8. Demonstrate effective communication.
   9. Understand active learning and your responsibility to be teachers as well as learners.
   10. Describe your responsibility for your own learning and how this will be accomplished.
   11. Identify your personal style of leadership and begin the process of career development.
   12. Describe why high moral and ethical integrity are critical for professional students.

   B. Skills:
   1. Effectively utilize campus and school resources.
   2. Understand the interdisciplinary environment of a health science campus.
   3. Participate in a group that includes members with different learning and work styles.
   4. Effectively and constructively work in a group learning team.
   5. Interact with a team and the class to voice your opinions on unethical or questionable behavior including cheating and plagiarism.
   6. Perform self-learning strategies effectively.
   7. Write a personal mission statement.
   8. Write a concise, clear statement of your philosophy for personal management.

   C. Attitudes:
   1. Value the uniqueness of an urban campus and the amenities available to the students to enhance learning.
   2. Recognize the multiple sites convenient to the campus that allow student exposure to the research, hospital and clinical milieu.
   3. Respect different cultures, values, customs and learning strategies in classmates and colleagues.
   4. Value the richness of diversity and how differences of opinion or methods of accomplishing goals can be healthy and rewarding.
   5. Value the importance of student self-learning (self-directed learning).
   6. Recognize that every professional needs to develop personal leadership qualities.
   7. Recognize the importance of high ethical integrity for pharmacists.

2. Basic Skills Ability-Based Outcome: demonstrate the ability to perform important critical functions related to computer use, writing, medical terminology and time management.

   A. Knowledge:
   1. Identify basic computer hardware and software characteristics of a personal computer.
   2. Describe the features of the word processing program that will be used.
   3. Understand appropriate English composition.
   4. Understand the need for the technical nature of a medical vocabulary.
   5. Recognize the meaning of complex medical terms and understand how they are derived from simpler components.
   6. Describe the importance of good time management skills and how to implement time management strategies.

   B. Skills
   1. Computer skills:
      a. Launch a computer application
      b. Save work to a computer file
      c. Print a file
      d. Copy a file for use on another computer
      e. Use a standard word processing program to create and edit a formatted document using tables and graphics
      f. Use electronic mail effectively, including awareness and practice of proper etiquette
      g. Access and use the internet's world wide web (WWW)
   2. Write concise, clear written materials employing proper English grammar and usage.
   3. Define the commonly used suffixes, prefixes, and word roots in medical terminology.
   4. Use a word-building system to write, define and spell medical terms.

   C. Attitudes:
   1. Recognize why good computer skills are essential for

the success of a pharmacist.
2. Value the importance and the power of written communication in all professional activities.
3. Recognize the need for a good medical vocabulary.
4. Appreciate why good time and personal management are critical to the success of any professional.
3. Professional Pharmacy and Academic Life Ability-Based Outcome: Identify and gather appropriate information to understand the most common types of pharmacy practitioners, faculty and trainees.
   A. Knowledge:
      1. Describe the most common opportunities in pharmacy practice and how these roles may change over the next 10-15 years.
      2. Define pharmaceutical care and drug misadventuring.
      3. Identify the roles of various faculty disciplines and their role in the pharmacy curriculum and their role in professional practice and research.
      4. Describe the common postgraduate training programs available in order to be competitive for positions in pharmacy practice, research and academia.
      5. Describe the different levels and ranks in pharmacy

practice and academia.
      6. Identify why each of these practice components and disciplines are important in the professional pharmacy curriculum.
   B. Skills:
      1. Interview (each group) one practitioner, one professor, one post-doctoral resident or fellow and one upper classman using specific questions to identify roles and responsibilities of various pharmacy professionals.
      2. Prepare a report on various career options and training necessary to achieve specific career opportunities.
      3. Assess where the various discipline-specific material will appear in the pharmacy curriculum.
      4. Prepare a written definition of pharmaceutical care.
   C. Attitudes:
      1. Appreciate that there are multiple roles and responsibilities for pharmacists and that each of these is essential to the profession as a whole.
      2. Value the unique qualities, skills and characteristics of the faculty and fellow classmates.
      3. Recognize the need for postgraduate training and its importance in some areas of pharmacy practice.

APPENDIX B. INTRODUCTION TO PHARMACY CLASS SCHEDULE AND ACTIVITIES

Day	Function	Format	Advanced Readings
1	Health screening	Individual	
	Composite pictures	Individual	
2	Overview of the Course	Didactic/discussion	Syllabus
	Introduction to medical terminology	Didactic/discussion	Self-study handout
	Pair and Share	In pairs	
	Orientation to Campus and student services	Didactic/discussion	
	Computer skills testing[a]	Individual	
3	Pharmaceutical care	Didactic/discussion	Handout
	Working together in teams	Didactic/discussion	Handout
	Team project - pharmacy careers	In teams	Profession "briefs
	Team presentations on pharmacy	Discussion	
4	Orientation to the curriculum	Didactic/discussion	(1) SOP** mission statement, (2) SOP curriculum ability-based outcomes, (3) Background papers I and II[c]
	Team discussion on the curriculum	In teams	Specific questions on the curriculum
	Open discussion on the curriculum	Discussion with faculty	Handout
	Medical terminology - continued	Didactic/discussion	Handout
	7 Habits of Highly effective people	Didactic/discussion	Handout and Covey(13)
5	7 Habits Team discussions	In teams	Specific questions
	Team presentations on 7 Habits	Discussion	
	Workload/study habits	Discussion with upper classmen	
	Time management	Discussion with faculty	
	Write your own mission statement	Individual homework assignment	Covey[d]
6	Medical terminology quiz 1	In class	
	Team discussion on faculty types	In teams	"Brief" on various faculty types
	Team presentations on faculty types	Discussion	
	Scavenger hunt to the faculty	In teams	Questions identifying specific faculty
	Student Organizations Social	Sign-up to become members	
7	Medical terminology quiz 2	In class	
	Ethics from the State Board perspective	Didactic/discussion with state Board members	
	SOP Student Ethics and conduct code	Didactic/discussion	The conduct code
	Mock trial on conduct code violation	Student ethics committee discussion	Sample ethics violation
	Internet exercise on disciplined pharmacists	Individual	

Day	Function	Format	Advanced Readings
8	Personality Inventory	Individual	
	Critical thinking skills assessment	Individual	
	Health problems in the profession	Didactic/discussion	
9	Medical terminology quiz 3	In class	
	Bloom's taxonomy and learning styles	Didactic/discussion	Handouts
	Team exercise on successful learning strategies	In teams with upper classmen as facilitators	
	Active learning strategies	Didactic/discussion	Handouts
10	Drug Misadventuring	Didactic/discussion	Handouts
	Team exercise on drug misadventuring	In teams	Specific questions
	Graduation and White Coat Ceremony	Entire class with faculty	

[a] Computer skills assessments are offered each day from 3:30-4:30 by appointment with the Computer and Information Technology committee staff.

[b] School of Pharmacy.

[c] See references 1 and 2.

[d] See reference 13.