Fine-Tuning an Externship Experience

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INTRODUCTION

In 1975, the American Council on Pharmaceutical Education (ACPE) mandated that experiential training programs become a component of the pharmacy curricula (1). A structured and standardized system for on-the-job training became the responsibility of the colleges and schools of pharmacy as they developed, implemented, and administered the experience that became known as the externship program (2, 3). Experiential programs have been expanded to include not only the externship program, where basic, product-related experience is obtained from drug distribution functions in both hospital and community practice, but also clerkship experience that includes activities in patient care areas (4).

The goal of the Mercer externship program is to provide an educational experience designed to be practical and intellectually stimulating and to enable the extern to better assume his or her future role as a competent pharmacist. Specific goals include establishing confidence and competence in the practice of community and hospital pharmacy, providing on-the-job practical experience in the oper-

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ation and management of a pharmacy and a drug distribution system, aiding the student in the development of communication skills – both written and verbal – so that he or she can communicate effectively with the patient and with other health care professionals, and achieving a working knowledge of proper drug therapy. The externship experience should provide the student with the necessary transition period from didactic instruction to the application phase of pharmacy.

Traditionally, Mercer University students enrolled in the third-year externship program had been assigned to a hospital or community pharmacy in the metropolitan Atlanta area. At the completion of the rotation, the students were evaluated by their preceptor as well as formally tested on pharmacy law and commonly used drugs.

After meeting with students, receiving student input from site evaluation forms, conversing with preceptors during site visits and at preceptor conferences, and reviewing the literature, changes were undertaken to ensure that the externship program was adequately preparing students for their clerkship and, ultimately, the practice of pharmacy (5-13). The externship program was revised in the summer of 1988. The changes included two school-based meetings during the quarter. This new format split the responsibility of teaching the competencies required during the rotation between preceptor and faculty member. The preceptor no longer had to assume responsibility for all competencies.

Program Structure

Mercer University's entry-level Pharm.D. curriculum requires students in their third professional year (of the six-year curriculum) to successfully complete a morning hospital or community rotation and to attend afternoon didactic classroom instruction at school. Students are required to attend rotations during two out of three quarters during the academic year. Rotations are approximately four hours each morning at a community pharmacy or hospital site for ten weeks. There is a limited opportunity for accelerated externships of five weeks at full time (40 hours per week) during the summer quarter preceeding the third professional year. The summer program has been a popular option because rotation hours can be completed during an eight-hour day for five weeks instead of the

school-year schedule of four or five rotation hours daily for ten weeks. Students enrolled in the summer rotation program also have the advantage of free mornings during the academic year. Courses that students are required to complete before participating in the externship program are listed in Table 1. In addition to academic credit for the externship program, the student receives 300 hours of internship credit toward pharmacy licensure.

Revised Community Pharmacy Rotation

During the third and eighth weeks of the ten-week community rotation, students were required to report to school for three hours of classroom instruction. During the first school meeting, students reported on over-the-counter (OTC) consultations they had made during the first three weeks of their rotation using a standardized method of documentation (10). They listened as the metropolitan

TABLE 1. Curriculum

First Professional Year

Introduction to Pharmacy 300
Communications 303
Medicinal Chemistry 319
Anatomy-Physiology 330, 331, 332
Pharmaceutical Calculations 301
Pharmacy Law and Professional Ethics 385
Biochemistry 320, 321
Immunology 324
Autonomic Pharmacology & Chemistry 340

Second Professional Year

Pharmacy Management 407*
Cardiovascular Pharmacology & Chemistry 441
Pathological Basis of Disease 434, 435, 436
Pharmaceutics Lecture 400, 401
Pharmaceutics Laboratory 400L
Pharmacy Dispensing Laboratory 408L*
Medical Microbiology 433
Central Nervous System Pharmacology & Chemistry 442
Chemotherapeutics 443
Non-Prescription Products 455*
Elective

*Prerequisites for externship

Atlanta police department presented guidelines for behavior during robberies and other security violations, and they took a test on product knowledge of community drugs. The last school meeting included a final test on drug product knowledge, OTC self-medication reports, and a practical noncompounding lab. Cardiopulmonary resuscitation certification was also required to ensure that students were trained to assist in emergency situations. During the last part of the rotation, students were required to show proof of certification. Table 2 lists the specific community topics as well as the grading structure.

Revised Hospital Pharmacy Rotation

During the third and eighth weeks of the ten-week hospital rotation, students were required to report to school for three hours of classroom instruction. The hospital topics covered during the first school meeting included a lecture on patient chart reviews, a film from the American Society of Hospital Pharmacists entitled "Detecting Medication Errors," and a test on hospital drug product knowledge (14). The last school meeting included a final test on hospital drug product knowledge and a practical noncompounding lab. Table 3 lists the specific hospital topics as well as the grading structure.

Hopkins and Barnett have reported that there is more to professional practice training than simply the mechanisms of pharmacy practice (15). They state that a well-rounded student needs exposure to all aspects of pharmacy practice, including involvement in professional organizations. In an attempt to encourage participation in professional organizations, students were required to attend two professional meetings per rotation.

METHODS

Third-year externship experience questionnaires were mailed to the 22 hospital and 47 community preceptors. A follow-up survey was mailed two weeks later to all preceptors to ensure adequate participation. The response rate was 50% (11) for the hospital preceptors and 77% (36) for the community preceptors. Students ($n = 120$) were surveyed during the last month of their third professional

TABLE 2. Community Rotation

Grading

Preceptor – 50%
Written and practical (W/P) – 50%

Community (550R)

1st day class – orientation (mandatory)
2nd day class – report to rotation site

Week 3

8:00 – 8:50 a.m.	Product Knowledge Test I – Drugs 1-52 of Top 150 Prescription Drug List (W/P 15%)
9:00 – 9:50 a.m.	Pharmacist-Assisted Self-Medication OTC Case Report, 5 due (W/P 5%)
10:20 – 11:10 a.m.	Pharmacy Security – Officer from Atlanta City Police Crime Prevention Unit (W/P 5%)

Week 8

9:00 – 11:00 a.m.	Rotation Exit Exam – Drugs 1-75 of Top 150 Prescription Drug List plus commonly used community drugs on a practical exam covering errors and omissions in prescriptions, application of Georgia law, review of patient profiles, and calculations (W/P 25%)

Week 1–10

Students are required to complete a CPR course, sponsored either by the American Red Cross or the American Heart Association, prior to or during the community rotation period.

Students are reminded to attend two professional meetings during their third professional year of school before the completion of their last rotation.

year. The student response rate was 82% (90). Analyses included the standard descriptive statistics of frequencies and means.

RESULTS

Community Pharmacy Rotation

Results of the community study (Table 4) showed that both preceptors and students agreed on the value of the externship program

TABLE 3. Hospital Rotation

Grading

Preceptor – 50%
Written and practical (W/P) – 50%

Hospital (551R)

1st day class – orientation (mandatory)
2nd day class – report to rotation site

Week 3

8:00 – 8:50 a.m.	Product Knowledge Test – Drugs 76-128 of Top 150 Prescription Drug List (W/P 15%)
9:00 – 9:20 a.m.	ASHP film "Detecting Medication Errors" (W/P 5%)
9:30 – 11:00 a.m.	Chart review/Drug interactions (W/P 5%)

Week 8

9:00 – 11:00 a.m.	Rotation Exit Exam – Drugs 76-150 of Top 150 Prescription Drug List plus commonly used hospital drugs on a practical exam covering errors and omissions in hospital orders, application of Georgia law, review of patient profiles, and calculations related to IV admixtures (W/P 25%)

Week 1–10

Students are reminded to attend two professional meetings during their third professional year of school before the completion of their last rotation.

and the importance of the program as the necessary bridge between didactic instruction and experiential learning. Preceptors and students also agreed that the preceptor, rather than the site alone, "makes" the rotation. Both groups are also in agreement that preceptor training programs should be mandatory and that a criterion of preceptor selection should be the preceptor's communication skills.

Program characteristics viewed as strengths by both groups included required certification in cardiopulmonary resuscitation, first aid training, and the opportunity for students to return to school for multiple testing instead of relying on one comprehensive product knowledge test. The preceptor's role in critiquing of and advising in

student communication skills during interactions with patients and other health care professionals is also important to both groups.

Preceptors agreed with the statement that "the incorporation of a compounding 'dry lab' was helpful to the student in reviewing and retaining skills," while the students' responses were fairly evenly divided among agree, undecided, and disagree. Preceptors also agreed that students should become involved in professional pharmacy associations while still in school and thought that required attendance at these meetings strengthened the externship program. Students were not in favor of required attendance at professional meetings as part of their externship and remain undecided about whether they should become involved in professional organizations sometime during their enrollment in pharmacy school. While the students were undecided, the preceptors stated that program strengths included a presentation to students on pharmacy security, OTC drug consultations, and two school-based meetings for classroom instruction. Preceptors also agreed that students' counseling skills are strengthened during the externship experience. Student responses regarding the strengthening of counseling skills were also positive, but close to neutral. Of the students responding, 60% agreed with the preceptors on this item. The students' responses about whether the faculty should make site visits were evenly divided among strongly agree, agree, and undecided, whereas their preceptors favored faculty visitations.

Hospital Pharmacy Rotation

Results of the hospital study (Table 5) showed that both preceptors and students agreed on the value of the externship program and the importance of the program as the necessary bridge between didactic instruction and experiential learning. Preceptors and students also agreed that the preceptor, and not the site alone, is vital to the success of the rotation. Both groups were also in agreement that preceptor training meetings should be mandatory and that communication skills are important in preceptor selection.

A program characteristic viewed as a strength by both groups was the inclusion of certification in cardiopulmonary resuscitation. Both

TABLE 4. Third-Year Externship Experience, Community Rotation

A = 5 (Strongly Agree) B = 4 (Agree) C = 3 (Neutral)
D = 2 (Disagree) E = 1 (Strongly Disagree)

n = 39 Preceptors n = 90 Students

1. The externship program is an integral part of the student's educational experience.

	Average	SA	A	N	D	SD
Preceptor	4.94	34 (94%)	2 (6%)	0%	0%	0%
Student	4.11	32 (36%)	45 (50%)	6 (7%)	5 (6%)	2 (2%)

2. The externship program is the necessary bridge between classroom instruction and the practical (experiential) component of pharmacy.

	Average	SA	A	N	D	SD
Preceptor	4.97	35 (97%)	1 (3%)	0%	0%	0%
Student	3.99	31 (34%)	43 (48%)	3 (3%)	10 (11%)	3 (3%)

3. The externship program provides practical on-the-job experience.

	Average	SA	A	N	D	SD
Preceptor	4.81	29 (81%)	7 (19%)	0%	0%	0%
Student	4.16	33 (37%)	46 (51%)	4 (4%)	6 (7%)	1 (1%)

4. The externship program strengthens the student's counseling skills.

	Average	SA	A	N	D	SD
Preceptor	4.46	21 (60%)	11 (31%)	1 (3%)	2 (6%)	0%
Student	3.53	18 (20%)	36 (40%)	15 (17%)	18 (20%)	3 (3%)

5. The combination of required documentation of OTC consultations and follow-up discussion at the school has strengthened the community externship program.

	Average	SA	A	N	D	SD
Preceptor	4.06	12 (34%)	16 (46%)	4 (11%)	3 (9%)	0%
Student	3.28	12 (13%)	34 (38%)	15 (17%)	25 (28%)	4 (4%)

6. The success of the externship program is primarily related to the effectiveness of the preceptor/ instructors rather than the site.

	Average	SA	A	N	D	SD
Preceptor	4.39	19 (53%)	14 (39%)	1 (3%)	2 (6%)	0%
Student	4.14	39 (43%)	36 (40%)	8 (9%)	3 (3%)	4 (4%)

7. The success of the externship program is primarily related to the rotation site rather than the preceptor.

	Average	SA	A	N	D	SD
Preceptor	2.31	2 (6%)	3 (8%)	4 (11%)	22 (61%)	5 (14%)
Student	2.43	5 (6%)	14 (16%)	12 (13%)	43 (48%)	16 (18%)

8. A consideration in preceptor selection should be based on their communication skills.

	Average	SA	A	N	D	SD
Preceptor	3.94	2 (6%)	23 (66%)	2 (6%)	2 (6%)	1 (3%)
Student	4.09	24 (27%)	52 (58%)	12 (13%)	2 (2%)	0%

9. Preceptors have the obligation to critique and advise students on their communication skills during interactions with patients/health care professionals.

	Average	SA	A	N	D	SD
Preceptor	4.31	16 (46%)	15 (43%)	3 (9%)	1 (3%)	0%
Student	3.87	21 (23%)	50 (56%)	7 (8%)	10 (11%)	2 (2%)

TABLE 4 (continued)

10. Incorporation of the topic of pharmacy security into the classroom has strengthened the community externship program.

	Average	SA	A	N	D	SD
Preceptor	3.57	5 (14%)	11 (31%)	18 (51%)	1 (3%)	0%
Student	2.84	6 (7%)	24 (27%)	23 (26%)	24 (27%)	13 (14%)

11. Incorporation of two product knowledge tests during the quarter instead of relying on one comprehensive final has increased the student's product knowledge base throughout the community externship program.

	Average	SA	A	N	D	SD
Preceptor	3.88	5 (15%)	20 (59%)	9 (26%)	0%	0%
Student	3.94	26 (29%)	46 (52%)	6 (7%)	8 (9%)	3 (3%)

12. Incorporation of an extemporaneous compounding "dry lab" has helped the student review and retain skills in this area.

	Average	SA	A	N	D	SD
Preceptor	3.91	7 (20%)	18 (51%)	10 (29%)	0%	0%
Student	2.89	7 (8%)	25 (28%)	21 (23%)	25 (28%)	12 (13%)

13. Students should become involved in professional pharmacy organizations while in school.

	Average	SA	A	N	D	SD
Preceptor	4.31	15 (43%)	16 (46%)	4 (11%)	0%	0%
Student	3.3	15 (17%)	32 (36%)	15 (17%)	21 (23%)	7 (8%)

14. Incorporation of attendance at professional meetings has strengthened the externship program.

	Average	SA	A	N	D	SD
Preceptor	3.85	7 (21%)	16 (47%)	10 (29%)	1 (3%)	0%
Student	2.43	8 (9%)	14 (16%)	14 (16%)	27 (30%)	27 (30%)

15. It is the responsibility of the preceptor to encourage attendance at professional pharmacy meetings.

	Average	SA	A	N	D	SD
Preceptor	3.74	7 (20%)	15 (43%)	10 (29%)	3 (9%)	0%
Student	2.5	4 (8%)	18 (20%)	19 (21%)	27 (30%)	22 (24%)

16. Students should be trained and certified in cardiopulmonary resuscitation (CPR) during their externship training.

	Average	SA	A	N	D	SD
Preceptor	4.37	18 (51%)	13 (37%)	3 (9%)	1 (3%)	0%
Student	3.84	22 (24%)	44 (49%)	13 (14%)	10 (11%)	1 (1%)

17. Incorporation of CPR certification into the community rotation has strengthened the externship program.

	Average	SA	A	N	D	SD
Preceptor	3.86	10 (29%)	13 (37%)	9 (26%)	3 (9%)	0%
Student	3.69	23 (26%)	35 (39%)	15 (17%)	15 (17%)	2 (2%)

18. Students should be required to take a basic first aid course as part of their externship experience.

	Average	SA	A	N	D	SD
Preceptor	4.11	12 (34%)	17 (49%)	4 (11%)	2 (6%)	0%
Student	3.61	12 (13%)	50 (56%)	13 (14%)	11 (12%)	4 (4%)

19. Incorporation of the first aid course has strengthened the externship experience.

	Average	SA	A	N	D	SD
Preceptor	3.91	10 (29%)	12 (35%)	11 (32%)	1 (3%)	0%
Student	3.44	13 (14%)	39 (43%)	17 (19%)	17 (19%)	4 (4%)

TABLE 4 (continued)

20. Having the students meet twice during the rotation period at school for classroom instruction has strengthened the program.

	Average	SA	A	N	D	SD
Preceptor	3.83	7 (20%)	16 (46%)	11 (31%)	1 (3%)	0%
Student	3.39	10 (11%)	41 (46%)	20 (22%)	12 (13%)	7 (8%)

21. Faculty should visit students on site each quarter.

	Average	SA	A	N	D	SD
Preceptor	4.41	19 (56%)	12 (35%)	1 (3%)	2 (6%)	0%
Student	3.38	23 (26%)	20 (22%)	24 (27%)	14 (16%)	9 (10%)

22. Externship preceptor training meetings should be mandatory for pharmacists desiring to be preceptors.

	Average	SA	A	N	D	SD
Preceptor	3.69	9 (26%)	14 (40%)	5 (14%)	6 (17%)	1 (3%)
Student	4.21	50 (56%)	22 (35%)	6 (7%)	8 (9%)	3 (3%)

groups also agreed on the importance of preceptor advising in and critiquing of the students' communication skills.

Preceptors thought the didactic instruction on medication errors was a program strength, while students remained neutral about it. Students agreed that multiple product knowledge testing is important, while the preceptors were undecided. Student opinions were divided among agree, undecided, and disagree with respect to the statement that "the compounding 'dry lab' has helped review and retain necessary skills," whereas preceptors remained undecided.

Preceptors agreed on, while students remained undecided about, the importance of being involved in professional pharmacy associations while still in school. The majority of preceptors (55%), believe it is their responsibility to encourage student attendance at professional meetings. Regarding site visits, the students and hospital preceptors were neutral.

DISCUSSION

This study identified and examined topics for possible inclusion in externship programs. Added emphasis on counseling and communication skills in both the community and hospital externship programs has been successful according to both preceptors and students. Cardiopulmonary resuscitation certification and required attendance of preceptors at training programs have also generally received favorable responses from all participants in the externship programs. Rotation sites are often selected on the basis of their location or reputation, but the results of this study show that students very strongly believe that the preceptor makes the experience worthwhile, not the site.

Overall, the authors believe that a structured externship with more school control is superior to the previously used method of placing all the responsibility for training on the preceptor. Students' attitudes cannot be contrasted at this time because, unlike the preceptors, they have only been exposed to the more structured externship program. In fact, some students may dislike the structured externship solely because it requires additional effort.

The externship program is tantamount to the training of pharmacy students. The literature provides pharmacy educators with in-

TABLE 5. Third-Year Externship Experience, Hospital Rotation

A = 5 (Strongly Agree) B = 4 (Agree) C = 3 (Neutral)
D = 2 (Disagree) E = 1 (Strongly Disagree)

n = 11 Preceptors n = 86 Students

1. The externship program is an integral part of the student's educational experience.

	Average	SA	A	N	D	SD
Preceptor	4.91	10 (91%)	1 (9%)	0%	0%	0%
Student	4.01	26 (30%)	44 (51%)	8 (9%)	7 (8%)	1 (1%)

2. The externship program is the necessary bridge between classroom instruction and the practical (experiential) component of pharmacy.

	Average	SA	A	N	D	SD
Preceptor	4.73	8 (73%)	3 (27%)	0%	0%	0%
Student	3.89	22 (26%)	44 (52%)	7 (8%)	12 (14%)	0%

3. The externship program provides practical on-the-job experience.

	Average	SA	A	N	D	SD
Preceptor	4.64	7 (64%)	4 (36%)	0%	0%	0%
Student	4.09	27 (31%)	47 (55%)	6 (7%)	5 (6%)	1 (1%)

4. The success of the externship program is primarily related to the effectiveness of the preceptor/ instructors rather than the site.

	Average	SA	A	N	D	SD
Preceptor	4.45	5 (45%)	6 (55%)	0%	0%	0%
Student	4.05	27 (32%)	45 (53%)	6 (7%)	4 (5%)	3 (4%)

5. The success of the externship program is primarily related to the rotation site rather than the preceptor.

	Average	SA	A	N	D	SD
Preceptor	2.09	0%	0%	2 (18%)	8 (73%)	1 (9%)
Student	2.6	5 (6%)	20 (24%)	11 (13%)	32 (38%)	16 (19%)

6. A consideration in preceptor selection should be based on their communication skills.

	Average	SA	A	N	D	SD
Preceptor	4.18	2 (18%)	9 (82%)	0%	0%	0%
Student	4.01	24 (28%)	47 (55%)	8 (9%)	3 (4%)	3 (4%)

7. Preceptors have the obligation to critique and advise students on their communication skills during interactions with health care professionals.

	Average	SA	A	N	D	SD
Preceptor	4.18	2 (18%)	9 (82%)	0%	0%	0%
Student	3.71	14 (17%)	48 (58%)	7 (8%)	11 (13%)	3 (4%)

8. Incorporation of classroom instruction in the area of chart review has strengthened the hospital rotation.

	Average	SA	A	N	D	SD
Preceptor	3.27	0%	4 (36%)	6 (55%)	1 (9%)	0%
Student	3.17	13 (15%)	28 (33%)	15 (17%)	21 (24%)	9 (10%)

9. Incorporation of classroom instruction in the area of detecting drug interactions has strengthened the hospital rotation.

	Average	SA	A	N	D	SD
Preceptor	3.27	0%	4 (36%)	6 (55%)	1 (9%)	0%
Student	3.36	13 (15%)	32 (38%)	18 (21%)	17 (20%)	5 (6%)

TABLE 5 (continued)

10. Incorporation of classroom instruction in the area of medication errors has strengthened the hospital rotation.

	Average	SA	A	N	D	SD
Preceptor	3.55	0%	6 (55%)	5 (45%)	0%	0%
Student	3.44	10 (12%)	38 (45%)	22 (26%)	2 (11%)	6 (7%)

11. Incorporation of two product knowledge tests during the quarter instead of relying on one comprehensive final has increased the student's product knowledge base throughout the hospital rotation.

	Average	SA	A	N	D	SD
Preceptor	3.36	0%	4 (36%)	7 (64%)	0%	0%
Student	3.85	19 (23%)	48 (57%)	7 (8%)	5 (6%)	5 (6%)

12. Incorporation of an extemporaneous compounding "dry lab" has helped the student review and retain skills in this area.

	Average	SA	A	N	D	SD
Preceptor	3.3	0%	3 (30%)	7 (70%)	0%	0%
Student	3.12	6 (7%)	32 (38%)	21 (25%)	18 (21%)	8 (9%)

13. Students should become involved in professional pharmacy organizations while in school.

	Average	SA	A	N	D	SD
Preceptor	3.73	2 (18%)	5 (45%)	3 (27%)	1 (9%)	0%
Student	3.23	10 (12%)	34 (40%)	18 (21%)	14 (16%)	10 (12%)

14. Incorporation of attendance at professional meetings has strengthened the externship program.

	Average	SA	A	N	D	SD
Preceptor	3.36	0%	5 (45%)	5 (45%)	1 (9%)	0%
Student	2.72	9 (11%)	19 (22%)	16 (19%)	21 (25%)	20 (24%)

15. It is the responsibility of the preceptor to encourage attendance at professional pharmacy meetings.

	Average	SA	A	N	D	SD
Preceptor	3.27	0%	6 (55%)	2 (18%)	3 (27%)	0%
Student	2.84	5 (6%)	23 (27%)	25 (29%)	17 (20%)	15 (18%)

16. Students should be trained and certified in cardiopulmonary resuscitation (CPR) during their externship training.

	Average	SA	A	N	D	SD
Preceptor	3.91	3 (27%)	5 (45%)	2 (18%)	1 (9%)	0%
Student	3.84	19 (22%)	46 (54%)	9 (11%)	9 (11%)	2 (2%)

17. Students should be required to take a basic first aid course during their externship experience.

	Average	SA	A	N	D	SD
Preceptor	3.18	0%	3 (27%)	7 (64%)	1 (9%)	0%
Student	3.51	13 (16%)	38 (46%)	14 (17%)	14 (17%)	4 (5%)

18. Incorporation of the first aid course has strengthened the externship experience.

	Average	SA	A	N	D	SD
Preceptor	3.09	0%	2 (18%)	8 (73%)	1 (9%)	0%
Student	3.25	13 (16%)	33 (40%)	12 (14%)	20 (24%)	5 (6%)

19. Having the students meet twice during the rotation period at school for classroom instruction has strengthened the program.

	Average	SA	A	N	D	SD
Preceptor	3.45	0%	5 (45%)	6 (55%)	0%	0%
Student	3.54	14 (17%)	39 (46%)	15 (18%)	10 (12%)	6 (7%)

TABLE 5 (continued)

20. Faculty should visit students on site each quarter.

	Average	SA	A	N	D	SD
Preceptor	3.45	1 (9%)	5 (45%)	3 (27%)	2 (18%)	0%
Student	3.46	20 (25%)	24 (30%)	15 (19%)	17 (21%)	5 (6%)

21. Externship preceptor training meetings should be mandatory for pharmacists desiring to be preceptors.

	Average	SA	A	N	D	SD
Preceptor	3.64	2 (18%)	5 (45%)	2 (18%)	2 (18%)	0%
Student	4.04	34 (42%)	29 (36%)	9 (11%)	5 (6%)	4 (5%)

formation and new ideas for improving this academic experience. As schools of pharmacy explore topics for inclusion in the experiential component (both externship and internship) of the curriculum, standardization of content must be addressed.

REFERENCES

1. American Council on Pharmaceutical Education. Accreditation manual. 7th ed. Chicago: ACPE, 1975.

2. Lipman AG, McMahon JD. Development of program guidelines for community and institutional externships. Am J Pharm Educ 1979;43:217-22.

3. Joint Committee on Internship of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy. The internship experience. 4th ed. Chicago: NABP, 1985.

4. American Council on Pharmaceutical Education. Accreditation standards and guidelines. 8th ed. Chicago: ACPE, 1985.

5. Bober KF, Risley ME, Seefeldt M. Externship evaluation project report. Am J Pharm Educ 1983;47:264-74.

6. Dickson M, Mendel PA. The effect of externship on student attitudes toward pharmacy practice. Am J Pharm Educ 1984;48:158-62.

7. Aceves-Blumenthal C, Stewart JE. Practitioners' assessment of the externship experience: a retrospective analysis. Part I. Am J Pharm Educ 1986;50: 14-22.

8. Aceves-Blumenthal C, Stewart JE. Practitioners' assessment of the externship experience: a retrospective analysis. Part II. Am J Pharm Educ 1986;50: 23-7.

9. Guidry TD, Cohen PA. A practical examination for student assessment in an externship program. Am J Pharm Educ 1987;51:280-3.

10. Vorce-West TE, Stennett D, Hermann F. Evaluation of OTC self-medication reports as an instructional strategy for clinical education. Am J Pharm Educ 1987;51:129-32.

11. Johnson KA, Weissman FG. Organization and elements of a community pharmacy clerkship. Am J Pharm Educ 1987;51:56-60.

12. Friend JR, Wertz JN, Hicks C, Billups NF. A multifaceted approach to externship evaluation. Am J Pharm Educ 1986;50:111-26.

13. Schneider FC. Chair report of the externship committee survey of undergraduate externship/clerkship program. Am J Pharm Educ 1983;47:411-5.

14. American Society of Hospital Pharmacists. Medication errors: a closer look. Film. Bethesda, MD: American Society of Hospital Pharmacists in cooperation with Lederle Laboratories, 1988.

15. Hopkins WA, Barnett CW. Pharmacists' participation in professional organizations. Am Pharm 1989;n.s.29(8):12-4.