RESEARCH ARTICLES

An Investigation of Pharmacy Faculty Attitudes Toward Faculty Development

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Objectives. This study investigated the attitudes and experiences of pharmacy educators towards faculty development programs.
Methods. A random sample of 600 faculty surveyed via mail resulted in 222 useable surveys (38.3% response rate).
Results. Few respondents have completed formal faculty development programs, while a larger number have completed informal programs. Clinical faculty reported a greater desire for pursuing formal faculty development than non-clinical faculty (P=0.036) and were more favorable toward partnering with a school of education in delivering formal faculty development programming (P=0.001). Top motivating factors for pursing formal or informal faculty development programming were to improve teaching, research skills, and quality of work. The majority of respondents were not positive toward the level of mentoring provided in their first academic position as well as ongoing institutional support.
Conclusions. These findings provide valuable information from the perspectives of faculty and establish a baseline of activity of faculty development in academic pharmacy and possible actions to be taken.

Keywords: faculty development, attitudes, pharmacy educators

INTRODUCTION

Higher education as a whole could do a better job of preparing and supporting faculty in their roles as educators and scholars. To prosper in academia, faculty must understand the tripartite mission of teaching, scholarship, and service that has become the hallmark of higher education. This tripartite mission found throughout higher education is in place in academic pharmacy as well. However, it would be erroneous to assume that all pharmacy faculty members have acquired the requisite knowledge and skills to become exemplary educators in the classroom or as researchers in their chosen fields. Kerr[1] describes the realities of a fledgling pharmacy faculty member, "I learned that I knew little about the science of education; that I had been flying by the seat of my Pants. Succeed-ing, perhaps, but not really knowing why…"

Most faculty learn to teach by observing others and selecting what they perceive to be the best methods for instruction and assessment, while dismissing those practices that they do not like. Whereas with respect to research, some faculty only dabble in scholarly pursuits, never fully defining their focus, or they move to the opposite extreme and – become consumed with the discovery of knowledge, only to lose sight of their teaching and service responsibilities.

The lack of attention given to faculty development that pervades all of higher education, from the humanities to the health sciences, is troublesome. In a comprehensive review of the literature of doctoral programs in American higher education, there was no mention of the need for faculty development programs that address the trends discussed.[2] Because of inade-

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quate development programs, some faculty resort to self-help guides, such as *Mentor in a Manual: Climbing the Academic Ladder to Tenure*.[3]

For clinical educators such as those in medicine, nursing, pharmacy, and allied health, the task of becoming a good teacher and scholar becomes more problematic as increasing demands are placed on faculty by the healthcare systems in which they maintain clinical practices.[4] All too often clinicians are recruited to participate in the education of students while often not being adequately prepared. An ill-advised philosophy is that if a clinician acquired the knowledge of his or her respective discipline, then he or she can teach that discipline.[5]

Given the unprecedented growth occurring in academic pharmacy, attention to the topic of faculty development is not only timely, but warranted. Based on demographic data alone, a substantiated need for faculty development programs in pharmacy education exists. In the 1990's, the largest growing discipline within the pharmacy faculty was that of clinical faculty members, who hold approximately half of all faculty positions in colleges and schools of pharmacy.[6] This tremendous growth in the number of clinical faculty can also be attributed to institutions converting from granting the baccalaureate degree to the clinical doctor of pharmacy degree (PharmD) as the sole professional degree.

The recent growth in the enterprise of pharmacy education over the last decade is unprecedented. Newly established academic pharmacy programs often hire a large proportion of faculty who are assuming their first full-time academic position or administrative position. Hence, these newer programs often lack senior faculty and administrators to provide mentoring roles to the inexperienced faculty and administrators. Moreover, continued interest exists to establish several new schools of pharmacy in the next several years thereby pressing this to the forefront of issues that need to be addressed in pharmacy education.[7]

Despite the expansion occurring in pharmacy education, the supply of new faculty has been relatively consistent.[8,9] Increasingly colleges and schools of pharmacy are hiring biomedical scientists as faculty members who may not be familiar with pharmacy education or the evolving role of the profession. Unlike in years past, these individuals often do not have a pharmacy degree and thus may have unique needs for faculty development that may be unmet and unheard.

However, this need has not gone unrecognized as the American Association of Colleges of Pharmacy (AACP) identified the need to provide support to its faculty membership, and beginning in 1984 instituted a one-day Teachers' Seminar held in conjunction with the annual meeting of the Association. In 1999, AACP also initiated the New Teachers' Seminar focusing on new pharmacy faculty in providing them an overview of the basics of pedagogy and androgogy and to review the foundations of aligning pharmaceutical education with how students learn. Likewise, the Commission on the Future of Graduate Education in the Pharmaceutical Sciences suggests that graduate students and individuals in post-graduate training would benefit from "survival skills" training through a combination of didactic presentations and supervised experiences.[10] Recently the AACP identified the issue of faculty recruitment and retention as one of the 3 areas to be addressed in the 2000 Strategic Plan.[11]

Institutions of higher education must be held accountable to provide appropriate support to the faculty with respect to their educational and intellectual development. Effective teachers and scholars need to constantly question their educational approaches by assessing not only their students' progress but their own, and examining the outcomes of their scholarly activities. Yet few faculty typically receive any formalized training or education in those processes that will help in determining their future success in the academic environment.

Faculty development programs have been defined as a tool for improving the educational vitality of institutions through attention to competencies needed by individual teachers and to the institutional policies required to promote academic excellence.[5] The purpose of a faculty development program is to enable faculty and staff to meet their goals, and through their accomplishments to achieve the missions of their departments, colleges, and universities.[12] Hence, faculty development programs should be designed to foster the growth of faculty to their maximum potential while achieving the mission and goals of their respective educational institution.

A comprehensive faculty development program should include the following areas: - professional (to promote individual scholarship and academic success**;** instructional (to provide teaching improvement opportunities), leadership (to enhance skills for curricular planning and change), and organizational (to influence policies, procedures, and the culture of the educational institution). [5] Continual institutional support is paramount to the overall success of faculty development programs. Several medical and pharmacy colleges and schools have attempted to address some of

these areas through internal faculty development programs.

The paucity of information contained in the pharmacy literature supports the need to obtain a benchmark regarding the extent to which pharmacy faculty have either formal or informal training and in what areas faculty in pharmacy education perceive the need for faculty development programs. The findings from such work could provide valuable information from the perspectives of the faculty with respect to faculty development programs as well as other factors that have contributed to or hindered their professional success in academia.

METHODS

This study assessed the attitudes of pharmacy school faculty members, both clinical and non-clinical, towards faculty development programs and determined the extent to which they had completed such faculty development programs. Additional research questions assessed the post-graduate experiences acquired by these faculty and determined if there were differences between clinical and non-clinical faculty in the extent to which they have participated or desired to participate in formal and/or informal faculty development programs. The extent that faculty believed they had benefited from formal and informal educational experiences in preparing them for the areas of teaching, scholarship, and service in academia were also assessed. Lastly, specific topics faculty would like to see offered through faculty development programs and the types of instructional technologies preferred by faculty were determined.

To address the study's objective and research questions a survey methodology was used. The population for this study included approximately 3,500 full-time faculty members at 80 colleges and schools of pharmacy as identified by the AACP *Roster of Faculty*.[6] The AACP roster is a comprehensive listing of pharmacy faculty from all academic disciplines, including members and non-members of the Association. Faculty included in this roster represented the following disciplines: biological sciences, library/educational resources, medicinal chemistry, pharmaceutical chemistry, pharmacognosy, phamaceutics, pharmacology, social and administrative sciences, and clinical pharmacy practice.

Individuals familiar with survey design from the fields of higher education and academic pharmacy were consulted about the construction of the survey instrument and definitions used for the study. The survey and accompanying cover letters were pilot tested by 5 faculty members from the investigator's institution. A sample survey is provided in Appendix A. An evaluation of face validity and content validity was addressed in the pilot study. Dillman's total design method for mail surveys was followed in the study.[13] Permission to conduct the study was requested and approved from the investigator's Institutional Review Board. Consent to include their response in the survey was assumed if respondents returned a completed survey.

A random sample of 600 faculty (7.5 per institution), or approximately 17% of the 3,500 full-time faculty in colleges and schools of pharmacy was identified. In order to achieve a level of statistical confidence ranging between 95% and 99%, the total number of respondents needed to be from 384 to 666.[14] A survey instrument, accompanying cover letter, and post-age-paid return envelope were sent on January 10, 2001 via first-class mail to each of the 600 faculty sampled. Budget limitations precluded surveying a larger population.

All non-respondents received a follow-up post-card 14 days after the initial mailing. Following another 7-day waiting period, remaining non-respondents received a second mailing that included another copy of the survey instrument and a second letter. A third and final letter was sent to the remaining non-respondents on February 15, 2001. Any remaining non-respondents at that point did not receive subsequent follow-up mailings.

Each survey sent to participants consisted of three parts. The first section of the survey asked participants to identify primarily demographic information about themselves (sex, age, faculty rank, locus of appointment, education) and their experience with formal and informal educational programs. On the survey, respondents were asked to classify themselves as either clinical or non-clinical faculty. Clinical faculty included faculty members typically with an appointment in pharmacy practice who often had clinical practice site responsibilities and who may have completed some form of post-graduate training. Non-clinical faculty included the basic and social sciences faculty who did not have a clinical practice site as required by their appointment, thus representing the biological sciences, pharmaceutical sciences, and social, behavioral and administrative sciences.

The second section of the survey instrument distinguished between formal and informal educational experiences and formal and informal faculty develop-

ment programs. Formal education was defined as degree programs (i.e., BS, M.S, PharmD, PhD, etc.) from post-secondary educational institutions, and informal education included the completion of post-graduate training (ie, residencies, fellowships, and formal post-doctoral training).

The third section of the survey assessed attitudes toward various faculty development initiatives in 4 areas (faculty, teaching, student issues, and resource issues). Formal faculty development programs included Masters-level degree or curricular-based certificate programs. Informal faculty development programs included other than discipline specific mini-courses, continuing education programs, workshops, or seminars specifically in the area of education that are narrower in scope and more time restrictive than formal faculty development programs. The majority of items were closed-ended/forced-choice questions. A 5-point Likert scale was used for responses with 1 = "Strongly Agree" or "Very Appealing" to 5 = "Strongly Disagree" or "Not Appealing." There were opportunities for participants to provide some written responses on the survey.

RESULTS

Survey data were analyzed using the Statistical Package for the Social Sciences (SPSS. Version 10. Chicago, Ill: SPSS, Inc.) One-way Analysis of Variance (ANOVA), Pearson-Correlations, and the chi-square test for independence were performed to determine the relationship among survey variables. Descriptive statistics were also compiled. The *a priori* level of significance for all statistical tests was set at an alpha level of .05.

To determine if similarities or differences existed among respondents based on when they returned their survey and the potential for nonresponse error on survey results, a statistical procedure was conducted. The premise underlying the procedure was that data from late responders may be similar to those of nonresponders.[15] All data were sequentially entered into the SPSS software the day the survey was received, thereby allowing comparisons to be made between early and late responders. No statistically significant differences were found between the means of various variables of participants who returned their surveys within the first week and the means of variables among those who returned their surveys later. Based on the lack of significant differences found, it appeared non-response bias was not a confounding factor in this study.

Demographics

Of 600 surveys mailed to pharmacy faculty, a total of 222 surveys were returned with 20 surveys being undeliverable, resulting in a response rate of 38.3% from the 580 possible respondents. Useable surveys returned from faculty represented all 9 disciplines identified in the *1999-2000 Roster of Faculty* (see Table 1). The total yield of 222 faculty surveys resulted in a calculated margin of error of 6.7%.

Complete respondent demographic data are provided in Table 2. The majority of respondents were male (62.2%) and at the time the survey was completed, 45.0% of individuals responded they were tenured in their position with about one third (31.1%) in non-tenure track positions. With respect to academic rank, the majority of the faculty members were assistant professors (40.1%), followed by associate professor (34.2%) and professor (22.5%). The majority of faculty classified themselves as clinical (52.7%) rather than non-clinical (44.1%). As for terminal degree, the PharmD degree was held by 48.6% of faculty and the PhD degree by 41.0% of respondents.

Educational Experiences of Faculty

Over one half of non-clinical faculty (60.2%), had completed some form of post-graduate training/fellowship. A total of 71.8% of the clinical faculty members indicated they had completed residency training, while 23.9% had completed a research fellowship. As seen in Table 3, faculty indicated they agreed that their formal education adequately prepared them to teach content (mean=2.33±1.24), but neither agreed or disagreed that their formal education prepared them for the pedagogical approaches by which they teach (mean=3.11±1.30). For informal education, respondents agreed their formal education adequately prepared them to teach content (mean=2.14±1.18) and process by which they teach (mean=2.77±1.32).

In comparing the perceived benefits of both formal and informal education in preparing respondents for scholarly activities such as research, publications, and paper presentations, respondents agreed that informal education (mean=2.12±1.13) more adequately prepared them than formal education (mean=2.89±1.40). As seen in Table 3, the majority of respondents agreed that some individual served in the capacity of mentor for them during their formal education (mean=2.37±1.49) and informal education (mean=1.90±1.19).

Table 1. Distribution by Discipline of Faculty Respondents to a Survey on Attitudes Toward Faculty Development.

Discipline	Mailed n (%)	Returned n (%)
Biological sciences	10 (1.6)	2 (0.3)
Continuing professional education	3 (0.5)	2 (0.3)
Liberal arts	3 (0.5)	6 (1.0)*
Library/educational resources	1 (0.2)	1 (0.2)
Medicinal chemistry	72 (12.0)	18 (3.1)
Pharmaceutics	72 (12.0)	25 (4.3)
Pharmacology	63 (10.5)	29 (5.0)
Social/administrative sciences	47 (7.8)	19 (3.4)
Pharmacy practice	324 (54.0)	119 (20.5)
Unknown	5 (0.8)	1 (0.2)
Totals	600 (100.0)	222 (38.3)†

*There were 3 more surveys returned in which respondents had classified themselves in Liberal Arts than were originally sent. This may in part be because the classification of some faculty may not be accurate from the AACP Roster when validated by individual faculty.

† There were 20 surveys that were undeliverable in the faculty group, resulting in a total useable N = 580.

Faculty Support in Academic Pharmacy

Faculty respondents reported that they were neutral toward the level of guidance and support provided to them in their first academic position in the areas of teaching (mean=3.45±1.18) and personal development as a scholar/researcher (mean= 3.54±1.21), see Table 4. In response to the item stating that faculty members had served in the capacity of mentors in their first academic appointment, respondents were somewhat neutral in their responses (mean=3.16±1.43).

Data related to the level of perceived support for faculty development at respondents' current place of employment is reported in Table 4. For the most part responses indicated that support was provided to faculty members by their respective institutions. Furthermore, a lower level of agreement with the statement that the "level of support offered should be increased" (mean=2.23±1.02) and a high level of agreement with the statement that "current support is adequate" (mean=3.24±1.08).

The perceived level of faculty development programming available to newly hired faculty and to continuing faculty at their current place of employment is described in Table 5. About one-quarter of faculty (24.8%) responded there were faculty development programs for newly hired faculty as well as for all faculty members (27.9%) at their institutions. The majority of respondents (53.2%) did not know the level of financial support allocated to faculty on an annual basis.

Completion of Faculty Development

Table 6 reveals the extent to which pharmacy faculty participated in formal and informal faculty development programs and what particular programs they completed. Formal faculty development programming was reported as being infrequently completed by respondents (89.2%). With respect to informal faculty development, the most common programming attended was the AACP Teachers Seminars (30.6%). On a percentage basis, more non-clinical faculty (68.7%) completed faculty development programs (both formal and informal) than clinical faculty 43.6% (Table 7).

As seen in Table 8, one-way analysis of variance (ANOVA) revealed a statistically significant difference exists between clinical and non-clinical faculty with clinical faculty having a greater desire to participate in formal faculty development than their non-clinical faculty counterparts (P=0.036). Likewise, a one-way ANOVA revealed a statistically significant

Table 2. Demographic Characteristics of Faculty Responding to a Survey on Attitudes Toward Faculty Development (N=222).

Demographic Characteristic		**n (%)**
Sex	Male	138 (62.2)
	Female	84 (37.8)
Age	26-30 years	23 (10.4)
	31-39 years	56 (25.2)
	40-49 years	76 (34.2)
	50-59 years	48 (21.6)
	> 59 years	19 (8.6)
Years at current place of employment	0-3 years	43 (19.5)
	4-6 years	52 (23.5)
	7-10 years	34 (15.4)
	11-14 years	30 (13.6)
	15-18 years	17 (7.7)
	> 18 years	45 (20.4)
Terminal degree	Pharm.D.	108 (48.6)
	Ph.D.	91 (41.0)
Clinical or non-clinical classification	Clinical	117 (52.7)
	Non-Clinical	98 (44.1)
	Other	6 (2.7)
	Unknown	1 (0.5)
Classification by degree	Non-Clinical – PhD	85 (38.3)
	Non-Clinical – Other	8 (3.6)
	Clinical – PharmD	100 (45.0)
	Clinical – MS	12 (5.4)
	Clinical – PhD	3 (1.4)
	Clinical – Other	3 (1.4)
	Other – PhD	3 (1.4)
	Other – Pharm.D	7 (3.2)
Tenure status	Tenured	100 (45.0)
	Non-Tenured	44 (19.8)
	Non-Tenure Track	69 (31.1)
	Does not apply	9 (4.1)
Current faculty rank	Instructor	7 (3.1)
	Assistant Professor	89 (40.1)
	Associate Professor	76 (34.2)
	Professor	50 (22.5)

effect (P=0.001) in that clinical faculty (mean=2.83±1.08) were more favorable toward the perceived need to partner with a school of education in the delivery of formal faculty development programming, as compared to basic science (mean=3.45±1.13) and social science (mean= 3.40±0.99) faculty.

Motivation to Pursue Faculty Development

Uniformly all respondents indicated their top 3 primary motivating factors for pursing either formal or informal faculty development were to improve their teaching skills, the quality of their work, and their re-

search skills (see Figure 1). With respect to informal faculty development, the following results were reported: "improve teaching skills"(mean= 1.09±0.29), "improving quality of work" (mean= 1.10±0.35), and "improving research skills"(mean= 1.20±0.68). For formal faculty development the respective scores were (mean=1.11±0.41), (mean=1.11±0.43), and (mean=1.21±0.69). Faculty expressed interest (mean=1.55±1.12) in being promoted through informal faculty development programming, and this interest continued in desire to earn better pay by completing formal faculty development programming (mean=1.66±1.15).

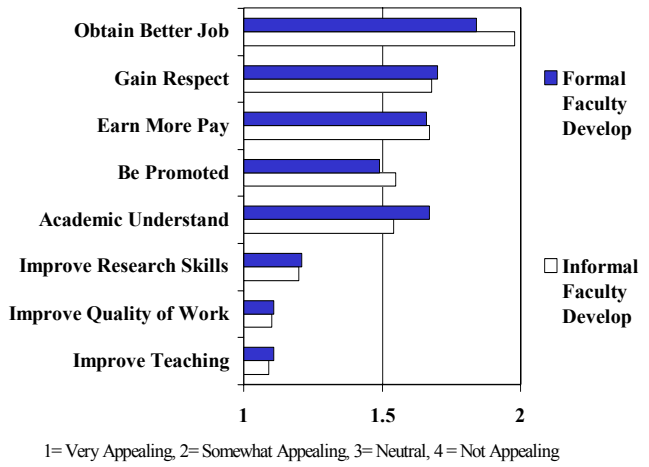

Figure 1. Motivation to pursue faculty development among pharmacy faculty members surveyed.

In assessing faculty clinical status with respect to the desire to complete informal or formal faculty development programming, no statistically significant differences were observed (see Table 9).

Faculty Development Initiatives and Delivery Options

As seen in Table 10, the resource development domain received the highest degree of interest among existing faculty (mean=2.00±1.18) and the domain of faculty issues was identified as being most needed during a faculty member's first academic appointment (mean=1.77±1.02). Specifically, the most desirable topics during a faculty member's first academic appointment were as follows: grant writing (mean=1.55±0.93), evaluating learning (mean=1.61±0.77), overview of the promotion and tenure process (mean=1.63±1.00), and developing effective lectures (mean=1.63±0.83).

With respect to existing faculty in their present appointments, the most desirable topics included computer assisted instruction (mean=1.83±1.04), web page development (mean= 1.86±1.13), developing alternative instruction (mean= 1.90±1.01), and ways to evaluate effective teaching (mean=1.91±1.01). Additionally, respondents were asked to identify through open-ended comments their most pressing need(s) for faculty development and were grouped into respective categories by the investigator (see Table 11). The top areas identified were related to teaching and learning, scholarship, and general time management for faculty. These qualitative comments reveal similar needs for faculty development in pharmacy education in comparison to the survey data contained in Table 10.

As seen in Table 12, the single most preferred method for instructional delivery of faculty development programming were live seminars (mean=1.89±0.98), computer-assisted CD-ROM (mean=2.03±0.91) and computer-assisted Internet instruction (mean=2.15±1.00). The least preferred instructional methods included audio cassette (mean=3.43±1.11) and telephone/teleconference (mean=3.52±1.02).

DISCUSSION

The results form this survey provide a baseline of understanding of faculty development issues in academic pharmacy. Ultimately, the information gained from this study may help faculty and administrators better understand the needs and desires of faculty with respect to faculty development initiatives in pharmacy education. The following discussion highlights the major findings from this study and possible considerations within academic pharmacy.

Post-Graduate Experiences of Faculty

It was reported that non-clinical faculty pursued post-graduate fellowship training more often than clinical faculty. Post-doctoral fellowships have been common (and expected in some disciplines) for PhD graduates for sometime. Only in approximately the last 20 years have opportunities increased for PharmD graduates to pursue fellowship training.

Depending on the goals of the respective post-graduate training program and influences from key individuals (ie, mentors), exposure to the inner workings of higher education and expectations for teaching, research, and service may or may not be significant to the trainee. However, more often than not, in addition to the indoctrination of the tenets of research,

Table 3. Perceived Benefit of Educational Experiences in Preparing Respondents for Academic Responsibilities

Perceived Benefit	**N***	**Mean (SD)***
Formal education		
Content of what I teach	222	2.33 (1.24)
Service contributions	221	2.86 (1.19)
Scholarly activities	221	2.89 (1.40)
Process by which I teach	222	3.11 (1.30)
Mentoring provided	220	2.37 (1.49)
Informal education		
Scholarly activities	152	2.12 (1.13)
Content of what I teach	152	2.14 (1.18)
Service contributions	151	2.74 (1.24)
Process by which I teach	152	2.77 (1.32)
Mentoring provided	151	1.90 (1.19)

Scale: 1= Strongly Agree, 2= Agree, 3= Neutral, 4= Disagree, 5= Strongly Disagree
*SD= Standard Deviation, N= number of respondents

Table 4. Respondent Perception of Faculty Development Support from Employer

Type of Support	**N***	**Mean (SD)***
First academic position		
Adequate guidance in teaching	216	3.45 (1.18)
Adequate guidance in scholarship	217	3.54 (1.21)
Mentoring provided	213	3.16 (1.43)
Current place of employment		
Scholarly activities	216	2.23 (1.02)
Informal programs are offered	215	2.56 (1.06)
Faculty release time provided	212	2.80 (1.24)
Financial support provided	213	2.88 (1.20)
Formal programs are offered	215	2.99 (1.12)
Current support is adequate	216	3.24 (1.08)

Scale: 1= Strongly Agree, 2= Agree, 3= Neutral, 4= Disagree, 5= Strongly Disagree
* SD= Standard Deviation, N= number of respondents

fellowships do provide some socialization to higher education and some exposure to teaching, whereas this may not be the case with clinical residency training programs in pharmacy. Thus, fellowships, completed by both clinical and non-clinical faculty focus on developing critical inquiry and research skills, which are key ingredients to faculty success in the academic world.

In contrast, the experiences clinical faculty receive from post-graduate residencies more often prepare them for roles as clinicians rather than researchers or educators. Due to the nature of their respective educational programs, clinical faculty in the health sciences are often not exposed to formal training in research, administration, or in teaching.[16] Therefore, clinicians from the fields of medicine, nursing, pharmacy, and allied health may lack an overall socialized knowledge of the academic environment from a faculty perspective when assuming teaching positions in contrast to their basic science colleagues.

As a result, peer acceptance of clinical faculty by non-clinical pharmacy faculty may be difficult when advanced post-graduate experiences in critical inquiry, research skills, and general socialization to higher education are absent (or latent in development) among clinical faculty. Recognizing this as a potential area of concern, Harvard Medical School established two tracks for clinical medical faculty: teacher-

Table 5. Respondents' Perception of Faculty Development Support for New and Continuing Faculty

Type of Support	n (%)
Programs for newly hired faculty	
Yes	55 (24.8)
No	119 (53.6)
Do not know	40 (18.0)
Did not respond	8 (3.6)
Programs for all faculty	
Yes	62 (27.9)
No	106 (47.7)
Do not know	45 (20.3)
Did not respond	8 (3.6)
Annual allocations per faculty	
< $100	33 (14.9)
$100-$499	12 (5.4)
$500-$1000	26 (11.7)
> $1000	21 (9.5)
Do not know	118 (53.2)
Variable amount	1 (0.5)
Did not respond	11 (5.0)

Table 6. Level of Formal and Informal Faculty Development Completed*

Type of Faculty Development	n (%)
Formal faculty development	
No formal program	198 (89.2)
Other †	17 (7.7)
Certificate program in education	2 (0.9)
Master's degree in education	0 (0.0)
Informal faculty development	
No informal program	129 (58.1)
Attended AACP teachers seminars	68 (30.6)
Other ‡	20 (9.0)
Attended AACP new faculty primer	12 (5.4)

*Respondents could respond to more than one category.
†Responses include: coursework in Schools of Education, completion of BS, EdD., and PhD degrees in Education, and certificate programs offered through Alverno College, Baylor, and Harvard.
‡Responses include: the AACP Institute, problem-based learning (PBL) initiatives, campus-based programs, and miscellaneous entries.

clinician and clinician-scholar.[17] Recently, in the *Journal*, Popovich and Abel called for the need for a broadened definition of scholarship and creativity and a recognition that there may in fact be unique characteristics of clinical faculty in the area of scholarship that need to be embraced and recognized.[18]

To attend to this unmet need, the creation of one-year, post-graduate, specialty residency training programs or research fellowships (after matriculants have completed a one-year general residency) with a focus on education are warranted. These programs, which are designed for prospective clinical faculty, should

Table 7. Clinical and Non-Clinical Faculty Completion of Formal and Informal Faculty Development

Type of Faculty Development	Clinical (n=117) n (%)	Non-Clinical (n=99) n (%)
Formal	8 (6.8)	11 (11.1)
Informal	43 (36.8)	57 (57.6)
Subtotal:	51 (43.6)	68 (68.7)
None	66 (56.4)	31 (31.3)
Totals	117 (100.0)	99 (100.0)

Table 8. Clinical and Non-Clinical Faculty Preferences for Faculty Development Programming

Preference		n	Mean (SD)	*P*
More formal programming	Clinical	116	2.14 (0.93)	
	Basic science (NC)‡	77	2.43 (1.14)	
	Social sciences (NC)‡	20	2.70 (1.42)	
	Other	6	1.67 (0.52)	
	Totals	219	2.28 (1.06)	0.036*
More informal programming	Clinical	116	2.04 (0.81)	
	Basic science (NC)‡	77	2.33 (1.07)	
	Social sciences (NC)‡	20	2.55 (1.32)	
	Other	6	1.83 (0.75)	
	Totals	219	2.18 (0.97)	0.051
Need to partner with school of education for formal programming	Clinical	115	2.83 (1.08)	
	Basic science (NC)‡	77	3.45 (1.13)	
	Social sciences (NC)‡	20	3.40 (0.99)	
	Other	6	3.00 (1.41)	
	Totals	218	3.11 (1.13)	0.001†
AACP meeting is appropriate place for informal programming	Clinical	114	2.59 (1.24)	
	Basic science (NC)‡	77	2.74 (1.20)	
	Social sciences (NC)‡	20	2.60 (0.99)	
	Other	5	2.00 (1.00)	
	Totals	216	2.63 (1.20)	0.537

Scale: 1=Very Appealing, 2=Somewhat Appealing, 3=Neutral, 4=Not Appealing, 5=Not Appealing At All
*$P \leq 0.05$
† $P \leq 0.01$
‡ These faculty are classified as non-clinical. SD= standard deviation, n= number of respondents

include activities (endorsed by AACP, ACCP, and ASHP) with colleges or schools of pharmacy that focus on the development of teaching and pedagogical skills through active participation in didactic and experiential education, as well as instruction on research activities and service commitments. In essence, these post-graduate residency or fellowship programs would be designed to prepare practitioner/researcher-educators in the clinical sciences. Some programs have already been developed with these goals in mind, though there are not enough to support the growing need in pharmacy education.

Mentoring

The role or absence of mentoring should not be overlooked based on the study results obtained, and more research in this area is to be encouraged. The majority of respondents agreed that an individual served in the capacity of mentor during both their formal education and informal education. However, the

Table 9. Faculty Motivation to Pursue Informal or Formal Faculty Development Based on Clinical or Non-Clinical Status

Motivation Factor	**Clinical (n=92)**		**Non-Clinical, Basic Science n=60**		**Non-Clinical, Social Science n=13**		
	Mean (SD)	**n**	**Mean (SD)**	**n**	**Mean (SD)**	**n**	***P***
Informal							
Improve Teaching Skills	1.11 (0.31)	92	1.08 (0.29)	60	1.00 (0.00)	13	0.552
Improve Quality of Work	1.11 (0.36)	80	1.13 (0.40)	47	1.00 (0.00)	13	0.648
Improve Research Skills	1.23 (0.73)	69	1.19 (0.66)	43	1.17 (0.58)	12	0.932
Understanding of Academia	1.63 (1.18)	41	1.52 (0.99)	29	1.29 (0.76)	7	0.812
Be Promoted at Current Work	1.42 (0.94)	45	1.83 (1.43)	24	1.50 (1.00)	4	0.511
Earn Better Pay	1.63 (1.07)	32	1.89 (1.37)	19	1.20 (0.45)	5	0.587
Gain Respect from Others	1.66 (1.12)	32	1.77 (1.31)	22	1.50 (1.00)	4	0.904
Obtain a Better Job Elsewhere	1.89 (1.37)	27	2.22 (1.56)	18	2.00 (1.41)	2	0.786
Formal							
Improve Teaching Skills	1.13 (0.43)	79	1.13 (0.44)	48	1.00 (0.00)	12	0.767
Improve Quality of Work	1.14 (0.49)	69	1.10 (0.37)	41	1.00 (0.00)	9	0.763
Improve Research Skills	1.24 (0.76)	63	1.18 (0.62)	28	1.17 (0.58)	12	0.961
Understanding of Academia	1.76 (1.25)	33	1.70 (1.17)	20	1.40 (0.89)	5	0.784
Be Promoted at Current Work	1.39 (0.92)	44	1.89 (1.53)	18	1.33 (0.82)	6	0.358
Earn Better Pay	1.64 (1.11)	33	1.85 (1.35)	20	1.20 (0.45)	5	0.653
Gain Respect from Others	1.61 (1.13)	28	1.94 (1.56)	17	1.67 (1.15)	3	0.722
Obtain a Better Job Elsewhere	1.85 (1.29)	27	2.07 (1.62)	15	1.50 (1.00)	4	0.709

Scale: 1= Very Appealing, 2= Somewhat Appealing, 3= Neutral, 4= Not Appealing, 5= Not Appealing At All
SD= Standard Deviation, n= number of respondents

majority of individuals did not perceive that a mentoring relationship was present in their first academic appointment (mean=3.16±1.43). Given that some pharmacy students will become future pharmacy faculty, mentoring is an area that should continue to receive attention from colleges and schools of pharmacy for students currently enrolled in both graduate and professional degree programs.

Given the importance mentoring can have on new faculty early in their academic career development, colleges and schools of pharmacy must not only turn their attention to faculty recruitment, but also to the nurture and support of newly hired faculty, which will ultimately impact faculty retention. As new faculty are hired, it is paramount that they be teamed with another "seasoned" faculty member who will at least provide guidance if not mentorship to them. The creation of a registry of faculty willing to serve as professional mentors from across the country via telecommunications could be encouraged by AACP. Faculty would register with an Internet registry by indicating their locus of academic appointment, interests related to teaching, scholarly activities, and service contributions to the academic and professional communities. New faculty would be encouraged to "linkup" with a seasoned colleague during the first years of their initial appointment.

Support for Faculty Development

The extent to which colleges and schools of pharmacy support faculty development programs and the amount of resources committed annually for faculty development were explored in this study. As seen from Table 4, faculty views of institutional support at their current place of employment for both informal and formal programming were not overly positive, as "Current support is adequate" had a response value of 3.24±1.08, with a value of 4 being "Disagree." Regarding financial support provided to faculty on an annual basis, it is surprising that 53.2% of faculty did not know the level of annual financial support offered at their own institution. This may be in part due to not being able to discern the differences between faculty versus professional development used in the study. The survey recognized this as a possible point of confusion for respondents and did state in question number 40, "What funds are allocated to you for faculty development pur-

Table 10. Faculty Preferences for Faculty Development Topics (N=222)

Development Topic	**Mean (SD)**	**n**	**Mean (SD)**	**n**
Teaching issues				
Developing alternative instruction	1.90 (1.01)	124	1.74 (0.83)	170
Ways to evaluate effective teaching	1.91 (1.01)	129	1.66 (0.81)	172
Nontraditional assessment/evaluation	1.94 (1.00)	124	1.93 (1.04)	166
Problem-based learning	2.07 (1.03)	122	1.77 (1.01)	171
Group-based learning	2.10 (0.97)	122	1.84 (0.98)	171
Ability-based learning	2.13 (1.11)	120	1.83 (1.05)	171
Test question construction	2.23 (1.08)	122	1.66 (0.90)	178
Curriculum design	2.32 (1.16)	115	1.97 (1.09)	173
Test item analysis	2.36 (1.14)	118	1.82 (1.01)	168
Developing effective lectures	2.38 (1.08)	114	1.63 (0.83)	175
Assessing educational resources	2.50 (1.06)	112	2.12 (1.03)	165
Developing learning objectives	2.51 (1.08)	118	1.81 (0.93)	171
Planning workshops and labs	2.63 (1.12)	111	2.04 (1.15)	169
Developing course syllabi	2.69 (1.09)	110	1.83 (0.96)	174
Clinical teaching	3.02 (1.67)	112	2.59 (1.75)	158
Overall mean	**2.31 (1.11)**		**1.88 (1.03)**	
Faculty issues				
Grant writing	2.21 (1.17)	123	1.55 (0.93)	179
Developing/maintaining a teaching portfolio	2.38 (1.21)	117	1.85 (1.11)	180
Time management of faculty responsibilities	2.49 (1.21)	114	1.71 (1.01)	177
Manuscript writing	2.57 (1.15)	112	1.79 (1.01)	176
Developing a research agenda/focus	2.63 (1.14)	112	1.80 (1.05)	175
Presentation skills	2.73 (1.19)	112	1.99 (1.04)	172
Career planning	2.74 (1.27)	108	1.85 (1.01)	176
Overview of promotion and tenure process	2.38 (1.35)	109	1.63 (1.00)	178
Overall mean	**2.57 (1.21)**		**1.77 (1.02)**	
Student issues				
Evaluating learning	1.93(0.99)	120	1.61 (0.77)	171
Student behavior (conflict resolution)	2.41(1.21)	117	1.81 (0.94)	172
Role of a faculty advisor	2.47(1.06)	115	2.02 (1.02)	171
The instructor/student relationship	2.55 (1.06)	113	1.98 (0.97)	167
Establishing authority with students	2.75 (1.07)	112	2.04 (1.03)	165
Overall mean	**2.42 (1.08)**		**1.89 (0.95)**	
Resource issues				
Computer assisted instruction	1.83 (1.04)	124	2.01(1.28)	163
Internet/web page development for courseware	1.86 (1.13)	128	2.36(1.51)	163
Designing visual aids to enhance learning	2.12 (1.09)	119	1.91(1.01)	169
Distance learning	2.21(1.44)	117	2.50(1.46)	166
Overall mean	**2.00 (1.18)**		**2.20(1.32)**	

Scale: 1= Strongly Agree, 2= Agree, 3= Neutral, 4= Disagree, 5= Strongly Disagree
SD= Standard Deviation, n= number of respondents

poses (not discipline specific) on an annual basis." In the future, these definitions need to be better articulated and understood within the academy, if in fact they are different at all.

Whatever may be the underlying causes for these views requires further attention in communicating what specific support and/or programs in the area of faculty development are provided to all pharmacy faculty at a given institution. Lack of guidance and support (either real or perceived) early in an academic career can af-

Table 11. Open-ended Responses for Faculty Development Needs

Perceived Need	**n**	**Rank**
Using technology to improve teaching efficiency	18	1
Teaching methods/skills for active learning	10	2
Assessment tools for testing competency and outcomes	9	3
Grantsmanship and manuscript writing	7	4
Research collaboration	6	5
Release time to take advantage of development programs	5	6
Time management (balancing priorities)	5	6
Internet/web page development for courseware	3	7
Funding for faculty development	3	7
Working and teaching with student groups	3	7
Developing a research agenda/focus	2	8

Table 12. Respondent Preferences for Instructional Delivery

Instructional Methods	**n**	**Mean (SD)**
Live seminars	215	1.89 (0.98)
Computer-assisted CD-ROM	213	2.03 (0.91)
Computer-assisted internet	213	2.15 (1.00)
Classroom instruction	211	2.25 (1.14)
Print materials	214	2.27 (0.94)
Video-cassette	215	2.62 (1.13)
Electronic mail	211	2.66 (1.09)
Satellite video	211	2.80 (1.10)
Audio-cassette	213	3.43 (1.11)
Telephone/teleconference	211	3.52 (1.02)

Scale: 1= Very Appealing, 2= Somewhat Appealing, 3= Neutral, 4= Not Appealing, 5= Not Appealing At All, SD= standard deviation, n= number of respondents

fect the satisfaction and professional performance of academia altogether.[19] Focusing on mentoring or guidance of new faculty is an area that requires greater attention from colleges and schools of pharmacy. The presence or absence of mentors can have a profound influence on individuals in their professional development.

One approach, which calls for the establishment of an apprenticeship to the profession of teaching in higher education, argues that the entrance of junior faculty members into the profession should be more gradual by offering more post-doctoral [teaching] fellowships to ease the transition from "studentdom" to full faculty status.[20] Such an apprenticeship would provide new faculty with time to assimilate before taking on full-time teaching and scholarly responsibilities. This approach may better prepare faculty to face the impending hurdles of evaluation for promotion and tenure.

Respondent Experiences with Faculty Development

While the data revealed that few respondents have completed formal faculty development programs, a larger number of individuals have completed informal programs. Based on the definitions used in this study, formal faculty development programs included Masters-level degree or curricular-based certificate programs, specifically in the area of education typically occurring at a post-secondary institution. Whereas informal faculty development programs encompassed mini-courses, workshops, or seminars specifically in the area of education that are narrower in scope and more time restrictive than formal faculty development programs.

Overall, completion of formal faculty development appeared quite limited, as only 7.7% of faculty indicated they have done so. Whereas a larger number of faculty members indicated they have attended informal programming such as the AACP Teachers Seminar (30.6%). A commonality among the AACP membership is that members are all involved in pharmacy education at the professional or graduate level and all faculty can possibly benefit from such programming at Teachers' Seminars. The Teachers' Seminars, or similar faculty development programming, could better address the needs of faculty if programming were targeted toward both new and experienced faculty irrespective of their academic appointment.

Comparison Between Clinical and Non-clinical Faculty

One research question explored if there were measurable differences between clinical and non-clinical faculty in the extent to which they have participated in either formal or informal faculty development programs. More non-clinical faculty (68.7%) had completed formal or informal programs than clinical faculty (43.6%). The greater availability of and the less resource-intensive (time and money) nature of informal faculty development programs may make these types of programs more attractive to participants.

Why non-clinical faculty reported greater participation in either formal or informal faculty development programs than did their clinical colleagues is unknown. It is plausible, however, that non-clinical faculty felt a stronger scholarly connection to the academic environment than clinical faculty, and as a result pursued programs to develop themselves further as educators and scholars. Likewise, because of the patient care responsibilities often required of clinical faculty, these faculty must divide their time between the academic and clinical environments. Thus patient care responsibilities may foster a disconnection with the academic setting among clinical faculty.

Desire and Motivation to Pursue Faculty Development

This study explored the desires and motivations of faculty to pursue faculty development. Specifically, did measurable differences exist between the responses of clinical and non-clinical faculty with respect to their desire and motivation for pursuing faculty development programs? When assessing the desire to participate in either formal or informal faculty development programming, a statistically significant difference was observed between clinical and non-clinical faculty. Although very few clinical faculty have completed formal programs, clinical faculty reported a greater desire for pursuing formal faculty development than their non-clinical faculty counterparts (P=0.036). Whether this greater desire to pursue formal faculty development was in part due to clinical faculty trying to obtain greater professional acceptance from their non-clinical colleagues is unknown. Clinical faculty may have desired to fill voids in their knowledge and skills associated with critical inquiry and teaching and learning as a result of not having completed post-graduate fellowship training where opportunities in these areas are more often present.

Not surprisingly, all respondents indicated their top three motivating factors for pursing either formal or informal faculty development programming were to improve their teaching, their research skills, and the quality of their work. Improving the quality of one's work and skills related to teaching and research would be anticipated responses from faculty in education, as these are related to their professional positions.

Topic Preferences and Delivery Technologies for Faculty Development

From this study it can be concluded that an appropriate time for faculty development is likely at the time of employment for newly appointed ("junior") faculty, primarily because they have a stronger desire for faculty development at that time. However, continued interest in faculty development was shown throughout a faculty member's career as seen in Table 10 and should not be ignored. Seasoned faculty may also have unique needs with respect to their continual development that need to be addressed.

With respect to the delivery of faculty development, it is somewhat ironic that the most preferred methods for the delivery of faculty development are located at opposite ends of the technology spectrum. The use of both live seminars and computer-assisted instruction in a combined fashion may be an optimal way to deliver faculty development programming to a widely dispersed audience. Using introductory computer-assisted CD-ROM programs and computer-assisted Internet instruction that are self-paced, followed by live seminars at national meetings (eg, the AACP Annual Meeting or other professional association meetings) may prove to be a cost-effective means of delivering faculty development programming in pharmacy education.

Self-Learning

This study did not take into account the process of "self-learning" that commonly occurs with faculty on campuses throughout academia. Faculty are a learned group, capable of identifying their own weakness and strengths, and able to identify the resources they need to prosper and advance themselves in their own academic communities. The successful educator and scholar of today, is a perpetual student embarking on a life-long journey of learning from their successes as well as mistakes, with a never-ending thirst for knowledge and self-improvement.

The study and subsequent findings do present some limitations. The sample size, respondent self-reporting, and response bias could be considered limitations to the study. Due to the large number of faculty in pharmacy education, the scope of this project did not allow for contacting each faculty member at all colleges and schools of pharmacy in the United States. As a result, limitations exist when extrapolating the study findings to the total population of pharmacy faculty in academic pharmacy that were not included in the study sample. Although there were limitations to the study, the results contribute new knowledge to understanding the attitudes and experiences of pharmacy faculty toward faculty development programs in pharmacy education.

As with many studies that attempt to define the baseline of activity in a given area, many more questions have arisen than may have been answered. Arising from this study are several fertile areas for additional research that build on its findings.

- To what extent and in what ways do clinical and non-clinical faculty believe their educational programs prepared them for their roles as a full-time faculty member?
- In what ways do post-graduate pharmacy residency programs prepare graduates for roles as full-time clinical pharmacy faculty?
- What specific aspects of mentoring in formal and informal education as well as during the first academic appointment contribute to faculty success in pharmacy education?
- Is there an optimal duration of time and sequencing of post-graduate training for clinical faculty (depending on the research or teaching expectations of the various types of institutions in pharmacy education)?
- What faculty development initiatives are in place at colleges and schools of pharmacy (either within the pharmacy programs or university-based) and are they producing positive outcomes for faculty and institutions?

CONCLUSION

As demonstrated by the results from this study, faculty, in pharmacy education are interested in furthering their knowledge and skills to assist them in becoming better educators, scholars, and productive individuals within their respective educational communities. However, more attention on a consistent basis within academic pharmacy and the professional pharmacy associations needs to be devoted to the critical area of faculty development to allow pharmacy faculty to prosper now and in the years ahead. Higher education including academic pharmacy must be held accountable to provide appropriate support to faculty with respect to their professional development.

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APPENDIX 1. Faculty Survey Instrument

Faculty Code: _____ (Note: the survey has been coded to allow for follow up with non-responders only.)

An Investigation of Faculty and Administrator
ATTITUDES TOWARD FACULTY DEVELOPMENT PROGRAMS IN PHARMACY EDUCATION

Instructions: *Please complete all questions unless otherwise directed. Use the scale at the top of the page to report your responses, for questions that do not ask for a "yes" or "no" response. Give only one response per question unless otherwise directed. Your participation is appreciated. Thank you for your assistance.*

SECTION I:
For purposes of answering the following questions, some definitions may be helpful.

- **Clinical Faculty**: Faculty members typically with an appointment in Pharmacy Practice often with clinical practice site responsibilities that have the B.S., Pharm.D. or M.S. degrees and may have completed some form of post-graduate training.
- **Non-Clinical Faculty**: Basic and social sciences faculty (biological sciences, pharmaceutical sciences, and social, behavioral and administrative sciences) who do not have a clinical practice site as required by their appointment.

1. I am:

   a. ___ Male b. ___ Female

2. My age is:

   a. ___ Under 25 years
   b. ___ 26-30 years
   c. ___ 31-39 years
   d. ___ 40-49 years
   e. ___ 50-59 years
   f. ___ > 59 years

3. Check all degrees that you have received:

   a. ___ Bachelor of Science (B.S.)
   b. ___ Bachelor of Arts (B.A.)
   c. ___ Bachelor of Pharmacy (B.S.)
   d. ___ Doctor of Pharmacy (Pharm.D.)
   e. ___ Master of Science (M.S.)
   f. ___ Master of Education (M.Ed.)
   g. ___ Doctor of Education (Ed.D.)
   h. ___ Doctor of Philosophy (Ph.D.)
   i. ___ Other (list):_____

4. I received my last academic degree in:

   a. ___ 1995-2000
   b. ___ 1990-94
   c. ___ 1985-89
   d. ___ 1980-84
   e. ___ 1975-79
   f. ___ 1970-74
   g. ___ 1960-69
   h. ___ before 1960

5. My current rank as a pharmacy faculty member is the following:

   a. ___ Lecturer
   b. ___ Instructor
   c. ___ Assistant Professor
   d. ___ Associate Professor
   e. ___ Professor
   f. ___ Emeritus Professor

6. My status with respect to tenure or continuous contract is:

a. ___ Non-tenured (tenure track appointment)
b. ___ Non-tenured (non-tenure track appointment)
c. ___ Tenured
d. ___ Does Not Apply

7. My current appointment as a faculty member is:

a. ___ Full-time
b. ___ Three-quarters time
c. ___ Half-time
d. ___ Quarter-time
e. ___ Less than Quarter-time
f. ___ Does Not Apply

8. I have a concurrent administrative appointment that is at the following level:

a. ___ Dean
b. ___ Associate Dean
c. ___ Assistant Dean
d. ___ Department Chair or Head
e. ___ Vice Chair or Assistant Head
f. ___ Director or Assistant Director
g. ___ Other
h. ___ Does Not Apply

9. My primary faculty appointment resides in the following area:

a. ___ Biological Sciences
b. ___ Medicinal/Pharmaceutical Chemistry
c. ___ Pharmaceutics/Pharmaceutical Sciences
d. ___ Library and Educational Sciences
e. ___ Pharmacology
f. ___ Pharmacy Practice
g.___ Social/Administrative Sciences
h.___ Continuing Education
i. ___ Other _____

10. How many years have you been at your current place of employment?

a. ___ 0-3 years
b. ___ 4-6 years
c. ___ 7-10 years
d. ___ 11-14 years
e. ___ 15-18 years
f. ___ >18 years

11. I would classify myself as the following type of faculty member:

a. ___ Clinical Faculty (skip to #13 & 14)
b. ___ Basic Science Faculty (Non-Clinical)
c. ___ Social Sciences(Non-Clinical)
d. ___Other _____

12. **Non-Clinical Faculty only**: indicate the most recent period you completed a post-graduate fellowship or post-doc training program, then move to **Section II**. **(Clinical faculty, skip to questions 13 & 14)**:

a. ___ 1995-2000
b. ___ 1990-94
c. ___ 1985-89
d. ___ 1980-84
e. ___ 1975-79
f. ___ 1970-74
g. ___ before 1970
h. ___ Does Not Apply

13. **Clinical Faculty only**: indicate the most recent period you completed pharmacy residency training.

a. ___ 1995-2000
b. ___ 1990-94
c. ___ 1985-89
d. ___ 1980-84
e.___ 1975-79
f. ___ 1970-74
g.___ before 1970
h.___ Does Not Apply

14. **Clinical Faculty only**: indicate the most recent period you completed a research fellowship program.

a. ___ 1995-2000
b. ___ 1990-94
c. ___ 1985-89
d. ___ 1980-84
e.___ 1975-79
f. ___ 1970-74
g. ___ before 1970
h. ___ Does Not Apply

Key: **1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree n/a = not applicable**

SECTION II:
INSTRUCTIONS: *Answer all questions to the best of your ability, using the scale at the top of the page. For questions that do not pertain to you, please leave the response column blank.*

For purposes of answering the following questions, some definitions may be helpful.

- **Formal education**: Includes degree programs (i.e., B.S., Pharm.D., M.S., Ph.D., etc.).
- **Informal education**: Includes post-graduate training (i.e., residencies, fellowships, post-docs**)**
- **Mentor**: Roles a mentor may provide include: advising, counseling, listening, nurturing, critiquing, advocating, teaching, etc.
- **Formal faculty development programs**: Includes other than discipline specific Masters-level degree or curricular based certificate programs specifically in the area of education that typically take place in post-secondary institutions.
- **Informal faculty development programs**: Includes other than discipline specific mini-courses, continuing education programs, workshops or seminars specifically in the area of education that are narrower in scope and more time restrictive than formal faculty development programs.

Formal Education

15. An individual served in the capacity of a mentor during my formal education. _____

16. My formal education adequately prepared me to assume my academic responsibilities related to the process by which I Teach. _____

17. My formal education adequately prepared me to assume my academic responsibilities related to the content of what I Teach. _____

18. My formal education adequately prepared me to assume my academic responsibilities related to Scholarly Activities (i.e., research, publication and paper presentations). _____

19. My formal education adequately prepared me to assume my academic responsibilities related to Service Contributions. _____

Informal Education *(For individuals who did not complete post-graduate training, skip to question 25.)*

20. An individual served in the capacity of a mentor during my post-graduate training. _____

21. My post-graduate training (i.e., residencies, fellowships, post-docs) adequately prepared me to assume my academic responsibilities related to the process by which I Teach. _____

22. My post-graduate training (i.e., residencies, fellowships, post-docs) adequately prepared me

to assume my academic responsibilities related to the content of what I Teach. _____

23. My post-graduate training (i.e., residencies, fellowships, post-docs) adequately prepared me to assume my academic responsibilities related to Scholarly Activities (i.e., research, publication and paper presentations). _____

24. My post-graduate training (i.e., residencies, fellowships, post-docs) adequately prepared me to assume my academic responsibilities related to Service Contributions. _____

Key: **1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree n/a = not applicable**

Faculty Development Programming

25. I would like to see more formal faculty development programs made available to me. _____

26. I believe that formal faculty development programs need to partner with a School of Education to be academically successful. _____

27. I would like to see more informal faculty development programs available to me. _____

28. The Annual AACP meeting is an appropriate place for informal faculty development . _____

Employers (Note: For new faculty this is likely your current employer)

29. An individual served in the capacity of a mentor during my first academic position. _____

30. During my first academic position I received adequate guidance and support from the institution to support my personal development as a teacher. _____

31. During my first academic position I received adequate guidance and support from the institution to support my personal development as scholar/researcher. _____

32. The level of faculty development activities at my current place of employment is adequate. _____

33. The level of faculty development activities at my current place of employment should be increased. _____

34. School administration at my current place of employment supports faculty development activities by providing financial support to attend such programming. _____

35. School administration at my current place of employment supports faculty development activities by providing faculty release time on a paid basis to attend such programming. _____

36. My current place of employment offers informal faculty development programs. _____

37. My current place of employment offers formal faculty development programs. _____

38. My current place of employment has an established faculty development program for newly hired faculty.

___ Yes ___ No ___ I do not know

39. My current place of employment has an established faculty development program for all faculty.
___ Yes ___ No ___ I do not know

40. What funds are allocated to you for faculty development purposes (not discipline specific) on an annual basis?
____< $100 ____$100-499 ____$500-1000 ____> $1000 ___ I do not know

41. The following is/are my most pressing need(s) in the area of faculty development:
_____
_____
_____

Key: **1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree n/a = not applicable**
SECTION III: **INSTRUCTIONS:** *Below are some areas that can be addressed in faculty development programs. Use the scale at the top of the page to report your responses for each category. One category relates to your current position and the other is your first academic appointment.* ***If presently you are in your first academic appointment you need only complete the "First Appointment" column.***

"I would find (or would have found) the following faculty development topics <u>helpful</u> in my academic career development":

Faculty Issues

	Helpful Now	***Helpful in My 1st Appointment***
42. Career planning	_____	_____
43. Overview of the promotion and tenure process	_____	_____
44. Time management of faculty responsibilities (teaching, scholarship, and service)	_____	_____
45. Grant writing	_____	_____
46. Manuscript writing	_____	_____
47. Presentation skills	_____	_____
48. Developing and maintaining a teaching portfolio	_____	_____
49. Developing a research agenda/focus	_____	_____
Other:_____		

Teaching Issues

50. Ways to evaluate effective teaching	_____	_____
51. Developing learning objectives	_____	_____
52. Developing course syllabi	_____	_____
53. Developing effective lectures	_____	_____
54. Planning workshops and labs	_____	_____
55. Assessing educational resources (textbooks, videos, etc.)	_____	_____
56. Test question construction	_____	_____
57. Test item analysis	_____	_____
58. Curriculum design	_____	_____
59. Developing alternative instructional approaches	_____	_____
60. Nontraditional assessment and evaluation methods	_____	_____
61. Group-based learning	_____	_____
62. Problem-based learning	_____	_____
63. Ability-based learning	_____	_____

64. Clinical teaching _____ _____

Other:_____

Student Issues

65. Evaluating learning _____ _____
66. Managing student behavior (conflict resolution) _____ _____
67. Role of a faculty advisor _____ _____
68. The instructor / student relationship _____ _____
69. Establishing authority with students _____ _____

Other:_____

Resource Issues

70. Designing visual aids to enhance learning _____ _____
71. Computer assisted instruction _____ _____
72. Distance learning _____ _____
73. Internet and web page development for courseware _____ _____

Other:_____

Resources

74. I am aware of initiatives related to faculty development through the ***Health Professions Education Scholar (formerly the Master Teacher Program)*** being developed by AACP.
___ Yes ___ No ___ I do not know about this program

75. I have completed the following formal faculty development programming (check all that apply).

a. ___ attained a Masters degree in Education
b. ___ completed a certificate program in Education
c. ___ I have not completed any
d. ___ Others_____

76. I have completed the following informal faculty development programming (check all that apply).
a. ___ AACP Annual Meeting Teachers Seminars
b. ___ AACP New Faculty Primer (1999 & 2000)
c. ___ I have not completed any
d. ___ Others _____

77. How appealing are the following methods for obtaining and completing informal or formal faculty development programming? Use the scale below to record your responses.

1 = Very Appealing 2 = Somewhat appealing 3 = Neutral 4= Not appealing 5 = Not appealing at all

a. Print Materials _____
b. Audio-cassette _____
c. Video-cassette _____
d. Telephone/Teleconference _____
e. Computer-Assisted Instruction (via CD-ROM) _____
f. Computer-Assisted Instruction (via Internet) _____
g. Electronic mail (via computer) _____
h. Satellite video _____
i. Live seminars _____
j. Classroom instruction _____
k. Other (list):_____ _____

78. If you were to pursue either formal or informal faculty development, check all statements that describe your motivation for doing so (items b-j below).

a. Check here if you have no interest in either formal or informal faculty development. _____

		Informal	**Formal**
b.	To earn better pay	_____	_____
c.	To improve my teaching skills	_____	_____
d.	To improve my research skills	_____	_____
e.	To gain a better understanding of academia	_____	_____
f.	To improve the quality of my work	_____	_____
g.	To be promoted where I work	_____	_____
h.	To obtain a better job elsewhere	_____	_____
i.	To gain more respect from others	_____	_____
j.	Other (list):_____		_____

Thank you for completing the survey. Please place in the enclosed self-addressed envelope or Fax to (623) 572-3510 and return by January 29, 2001:

Center for the Advancement of Pharmacy Practice (CAPP)
Midwestern University

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