

EDUCATIONAL STANDARDS FOR TEACHERS OF PHARMACY.*

BY B. V. CHRISTENSEN.¹

During the past few years there has been considerable discussion in the meetings of the American Association of Colleges of Pharmacy and the AMERICAN PHARMACEUTICAL ASSOCIATION relative to educational standards for students of pharmacy but very little has been noted regarding standards for teachers of pharmacy. It appears that the efficiency of the teacher has been implied and that if there were any indications of unsatisfactory results the fault rested upon the student rather than the teacher. To be true, there have been some excellent papers presented dealing with teaching methods and, in one case, a very excellent discussion advocating that teachers of pharmacy be required to satisfactorily complete a minimum of pedagogical units was presented but, in the main, the discussions have dealt primarily with student requirements.

While the requirement of practical pedagogical courses would probably be advisable, if not highly desirable, it appears that present conditions do not warrant such a procedure and that before this should come specific standards regarding the educational training of teachers of pharmacy which should be applied to all colleges belonging to the American Association. The actual situation existing in our colleges of pharmacy is illustrated by the following data concerning the educational qualifications of pharmacy teachers, which was obtained from a study of recent catalogs of twenty colleges representing the East, Middle West, West and South and also the independent colleges. Only faculty members ranked as instructors or above were considered in this tabulation:

EDUCATIONAL TRAINING OF TEACHERS IN 20 COLLEGES OF PHARMACY.

Total.	Ph.G.	Ph.C.	Bach.	Master.	Phar.D.	Ph.D.	Sc.D.	M.D.	D.D.S.	D.M.D.	P.D.	O.	No. of schools.
350	41	16	66	63	15	86	6	43	2	5	2	5	20
Per cent	11.7	4.5	19	18	4.2	24.5	17	12.2	0.6	1.4	0.6	1.4	

This tabulation indicates that about 45 per cent of the teachers in Colleges of Pharmacy have some form of a Doctor's degree, while about 18 per cent have less than a Bachelor's degree. This appears to be rather an encouraging situation but a further classification, as indicated below, indicates a situation which is a strong indictment against Pharmacy. In this tabulation the academic training of teachers according to subjects is shown.

EDUCATIONAL TRAINING OF TEACHERS ACCORDING TO SUBJECT TAUGHT.

	Ph.G.	Ph.C.	Bach.	Master.	Phar.D.	Ph.D.	Sc.D.	M.D.	D.D.S.	D.M.D.	P.D.	No deg.	Total.
Pharmacy	19	4	17	12	6	4		1	1	1	1	2	68
Pharmacognosy	10	2	5	7	2	2	1	3		1	1		34
Chemistry		7	8	10	15	5	37	3	1				86
Botany		3	1	1	4	1	4	1				1	16
Bacteriology		1		1	2		2	1	9				16
Physiology				1			4		14				19
Pharmacology				1	2	1	1		10				15
Total	40	15	35	43	15	54	6	38	1	2	3	2	254

* Section on Education and Legislation, A. Ph. A., Portland meeting, 1928.

¹ Professor of Pharmacognosy and Pharmacology, College of Pharmacy, University of Florida.

This tabulation indicates that of the teachers of Pharmacy and Pharmacognosy, only about 20 per cent hold some form of a Doctor's degree, while 33 per cent hold less than a Bachelor's degree; of teachers of chemistry, 51 per cent hold a Doctor's degree, while about 17 per cent hold less than a Bachelor's degree; of teachers of Botany, about 37 per cent hold a Doctor's degree; of teachers of Bacteriology, 75 per cent hold a Doctor's degree; of teachers of Physiology, 95 per cent hold a Doctor's degree; and of teachers of Pharmacology, 80 per cent hold a Doctor's degree. A further check indicates that of the teachers of Chemistry, 4 with a Pharm.D. and 4 with a Ph.D. are listed as teachers of Pharmaceutical Chemistry. This implies, consequently, that most of the teachers of Chemistry with a Doctor's degree are teachers of general or non-professional Chemistry. Most of these are members of the Chemistry Department of the university and students of Pharmacy attend their classes.

Is this not a strong indictment against the schools of pharmacy and against pharmacy as a profession? Surely Pharmacy and Pharmacognosy must be considered the basic subjects of the profession and yet we find that the most inadequately prepared teachers handle these subjects. Do we as pharmacists wish to admit that these subjects are not fundamentally important and do we wish to admit that a Ph.G. can teach pharmacy but that a Ph.D. is necessary to teach Chemistry or English or Languages? Would it not be advisable to require that all class-room instructors hold a Doctor's degree in his respective field of Pharmacy, Pharmacognosy or Pharmaceutical Chemistry as the case may be? Or possibly require that a minimum number hold the Doctor's degree and the rest a Master's degree?

This requirement should not, of course, be made retroactive. There are at present many excellent teachers in our schools of Pharmacy who do not even hold a Bachelor's degree, who, because of many years of experience have obtained an adequate fund of pertinent information, but is it not likely that this was done at the expense of the students, particularly in the first few years of teaching? Neither is it intended to imply that a teacher with a Ph.D. is necessarily always better than one without; however, other conditions being equal, there is no question but that the training obtained in earning a higher degree provides a background that can only be equalled by years of experience. Not only that, but this training implies a higher type of teaching from the beginning and it is not necessary that students suffer from poor instruction while the teacher is struggling to keep "one jump ahead of them" academically. Furthermore, if we consider the relative starting points of a teacher with a B.S. degree, for instance, and one with a Ph.D. degree, with an equal rate of progress on the part of these teachers through experience, students of pharmacy are not only benefiting from a higher type of teaching from the teacher with the higher degree, but they continually enjoy a type of instruction that is never equalled by the man with the lower degree.

It might be interesting as well as applicable to note here the three stages from the standpoint of theories of instruction through which normal schools, now called Teachers' Colleges, have passed. During the earlier stages of Teachers' Colleges their policies of instruction were based on the theory that telling was teaching and, therefore, a successful teacher should necessarily be thoroughly grounded in the so-called fundamentals and possess a fund of reserve information.

This was followed by a period (about 1890 to 1915) when it was held that method was the all-important requisite for successful teaching, *i. e.*, that one who knew how to teach could successfully teach any subject regardless of his academic knowledge of that subject. The third and present stage is a sort of compromise between the two preceding extremes and Teachers' Colleges now base their instruction on the premise that academic knowledge is first and above all essential and that methods of teaching are highly desirable.

This policy, namely, that academic preparation of teachers must come first and then methods, has now become definitely established as being sane and productive of satisfactory results not only on the part of Teachers' Colleges but colleges and universities in general. As a result the courses of instruction in Teachers' Colleges have been lengthened from two to four years in order to provide the academic background considered essential for high school teachers, while at the same time the high school course has not been extended beyond the usual 12th grade. Many states now require that all high school teachers must hold at least a B.S. degree in their respective lines, while some states, such as California, require a Master's degree. If it is necessary for a high school teacher to have a minimum of 4 to 8 years of educational training beyond that of the students they are teaching, is it consistent to expect a teacher of pharmacy with educational training a year or so beyond that of his students and, in many cases, less than that of his students, to provide adequate instruction? Do teachers of pharmacy feel that they are in a class by themselves, specially endowed for the job at hand? Law schools, dental schools and medical colleges have for several years required a higher type of training on the part of their teachers than have colleges of pharmacy. Colleges and universities are demanding that teachers of History, Physics, Foreign Languages, etc., hold a Doctor's degree. Does it not, therefore, behoove the colleges of pharmacy to give this matter serious consideration and take some action and, particularly, in view of the fact that courses are being extended to three and four years and in some cases to graduate courses? Then again, haven't Colleges of Pharmacy been placed in a peculiar situation as a result of recent legislation in a majority of states requiring college graduation as a prerequisite for registration? Colleges of Pharmacy, by favoring such legislation, have gone on record as approving and commending educational training as a necessity for higher professional standards for the pharmacist, but what about the teacher of Pharmacy? Since college graduation has been made a prerequisite for registration it appears logical and reasonable that prospective pharmacists have a right to demand a high type of teaching from the colleges. With inadequate educational training can teachers of Pharmacy furnish an adequate type of instruction?

Further, have not Colleges of Pharmacy been active in the agitation to have the State Boards raise the standards of examinations in order to raise the professional standing of the druggist? How can colleges of pharmacy consistently expect all other agencies concerned with registration of pharmacists to raise their standards when they themselves continue to maintain inadequate standards for teachers of Pharmacy?

To summarize, it appears that Colleges of Pharmacy have been active in insisting that educational requirements be raised for students, that college training be made a prerequisite for registration and that State Boards of Examiners raise

the standards of examinations, while at the same time little has been done toward raising teachers' standards. Does it not appear that there has been too much circumspection and too little introspection on the part of Colleges of Pharmacy?

In conclusion, would it not be advisable to require that all teachers, in Colleges of Pharmacy belonging to the American Association, with the rank of assistant professor or above, hold some generally recognized form of a Doctor's degree (Ph.D. or equivalent) and that all teachers in such colleges with the rank of instructor hold a Master's degree? This requirement not to be retroactive, of course, but to apply to all future additions to teaching staffs and in filling future vacancies as they may occur.



FIRST MEETING IDAHO PHARMACEUTICAL ASSOCIATION—MAY 30, 1907, AT BOISE.

First row next to wall reading from left to right: C. K. McCrum, Boise; A. N. Sprague, Twin Falls; unknown; Tom Poole, Nampa; N. L. Smartwood, Salt Lake City; F. E. McClure, Boise; Dr. I. R. Woodward, Payette; M. D. Fleming, Caldwell; B. B. Davis, Emmett; J. C. Tracy, Hailey; J. M. Reeves, Middleton; S. G. Wilson, Meridian; S. R. Dearey, Boise; unknown; C. O. Ballou, Boise; unknown; Robert McKnight, Nampa; unknown; W. S. Whitehead, Boise; Charles Baker, Mackay.

Second row, left to right: G. C. Baker, Boise; unknown; Ben Reed, Payette; D. Orr Poynter, Montpelier; Clyde Thurston, Payette; W. E. Bailey, Salt Lake City; John Kirkpatrick, Boise.

Third row on right of steps: Charles L. Joy, Boise; F. E. Smith, Nampa; W. B. Campbell, Denver.

Back row of group in front of steps: H. B. Whittlesey, Pocatello; J. E. Rawlings, American Falls; S. K. Paxton, Mackay; F. R. Walker, Weiser; J. B. Lattimer, Boise; R. W. Smith, Mountain Home. Three in front: E. O. Silverthorn, La Grande, Ore.; J. J. Buehler, Pocatello; R. A. Wells, Seattle.

The present officers of Idaho Association are: *President*, A. A. Walker, Boise; *Vice-President*, H. B. Whittlesey, Pocatello; *Treasurer*, Orville Jackson, Eagle; *Secretary*, Herschel M. Cummins, Melba.