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SURVEY OF PROGRAM DIRECTORS' PREFERENCES ON SELECTED RESPIRATORY THERAPY ACCREDITATION ISSUES

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Abstract

All respiratory therapy program directors were surveyed concerning their preferences on selected accreditation issues. A total of 265 (70.9%) surveys were returned in useable form. The program directors agreed that the associate degree should be the minimum educational level. They also agreed that graduate results on credentialing examinations should be emphasized in the standards. In general, there was support for process orientation, including more specific curricular guidelines and requirements for professional credentials and academic degrees for faculty.

Survey of Program Directors' Preferences on Selected Respiratory Therapy Accreditation Issues

In spring 1997, the American Association for Respiratory Care (AARC), the National Board for Respiratory Care (NBRC), and the Joint Review Committee for Respiratory Therapy Education (JRCRTE) put forth a "Position Statement on Educational Preparation for Entry into Practice as a Respiratory Care Practitioner" (C. J. Miller, personal communication, May 28, 1997). This document asserts that changing workplace expectations, expanded practitioner roles, and broadened educational expectations place new entry-level demands on respiratory practitioners. Because of this, the new entry-level minimum will become an associate degree.

Furthermore, AARC and JRCRTE have agreed to form a new accrediting agency, an action that is fully supported by NBRC. This new agency, the Committee on Accreditation for Respiratory Care (CoARC), will be sponsored by AARC along with the current physician sponsors. AARC does not now sponsor JRCRTE as an approved accreditation board for respiratory care.

Moreover, as a result of renewed sponsorship and entry-level requirement, new standards for accreditation are being formulated as of January 1, 1998. CoARC will work on the standard development through June 1, 1998, and will include a requirement for associate degree entry for program accreditation. CoARC will present these standards for approval.

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) will hold final hearings on the standards in October 1999. These hearings will be public and open to the community at large. CAAHEP has scheduled the only open forum for public comment on the standards. Until this point in the process, considerations, comments, or recommendations from a respiratory care educational program, or its faculty, can be submitted to CoARC or AARC.

Respiratory Care Accreditation: Background and Development

The accreditation of respiratory programs is governed by the JRCRTE *Essentials* (JRCRTE, 1986). These *Essentials* categorize standards as follows: sponsorship, outcome orientation, instructional plan, and program evaluation. These "essential elements" are evaluated through submission of a self-study document and an on-site assessment by a physician and a respiratory therapy educator, with a final recommendation of status by JRCRTE to an independent commission (CAAHEP).

The first guidelines were adopted in 1962 by the American Medical Association (AMA). Subsequently, revision occurred in 1972, 1977, and lastly in 1986, which represents our current *Essentials.* Although revision has occurred about once every 10 years, several significant events have taken place. After the 1962 adoption of the *Essentials* by the AMA Council on Medical Evaluation, length of education was amended as a minimum of 18 months (2 academic years) for preparation as an inhalation therapist (Anderson, 1990; Committee on Allied Health Education and Accreditation [CAHEA], 1988). This change occurred in 1967 and was not considered a major revision by the AMA House of Delegates at the time.

Later, in 1971 to 1972, the program length requirement was reduced when the Technician Certification Board of the American Association for Respiratory Therapy (now AARC) collaborated with the newly incorporated Joint Review Committee for Inhalation Therapy Education (JRCITE, formerly the Board of Schools for Inhalation Therapy and now JRCRTE).

Subsequently, JRCITE revised the *Essentials* for a shorter technician curriculum allowing 12 months of instruction. Thus, a dual level of accreditation — technician and therapist — was born (Anderson, 1990; Douce, 1992). In 1977, these two levels were separated under two documents entitled *Essentials of an Accredited Educational Program for Respiratory Therapy Technicians* and *Essentials of an Accredited Educational Program for Respiratory Therapists* (CAHEA, 1988). Therapist programs were required to have a 20-month program length and 62 credits of instruction, while only a 10-month instructional length was required for technician programs.

In 1986 revised *Essentials* were adopted as a result of a validity study that addressed concerns regarding accreditation accountability and outcomes and openness to nontraditional educational methodologies such as home study (Anderson, 1990; Scanlan, 1986). This one document limited process references in favor of requesting programs to define their goals and quantify their outcomes (JRCRTE, 1986). Again, the educational programs were evaluated under one set of *Essentials.*

Although the Scanlan (1986, 1989) studies noted that the only standards associated with high NBRC examination performance were program length and sponsorship by a community or 4-year college, the 1986 *Essentials* deleted any requirements for program length or college credit. Program length had been required in some minimum fashion from 1967 to 1986, a total of 19 years. There has been a lack of specific minimum educational duration for the last 12 years. Furthermore, the 1986 *Essentials* have not demonstrated significant validity as an outcome-based accreditation system (Scanlan, 1989, 1993).

Changes in respiratory care educational accreditation standards have not been based on empirical or scholarly evidence. Scholarship is limited to a few studies and articles. For example, Bunch (1982), in an anecdotal report, found that clinical department managers preferred graduates with 2 years of educational preparation. Douce and Wiezalis (1985) surveyed program directors on the then proposed *Essentials* (JRCRTE, 1986). At that time, support for the *Essentials* was limited.

Anderson (1990) studied perceptions of key personnel toward the 1986 *Essentials.* In general, respondents from 1-year programs indicated that no significant improvement in program quality had been realized under the 1986 *Essentials,* while 2-year key personnel perceived a quality improvement. Both program types reported that the self-study was more difficult to produce, lengthy, and costly, and that site visitors were not necessarily consultative. Interestingly, the Anderson study indicated that respondents believed that the 1986 *Essentials* were an improvement over the 1977 *Essentials.*

Purpose

Educational programs, specifically program directors, are the consumers of accreditation services. As the clients for this service, program directors require a forum for expression of opinion and feedback regarding accreditation. Such a forum should include

as many program directors as possible and should not be limited to those individuals who self-nominate by sending letters to the various organizations. In order to provide such a forum, we conducted a survey of program directors as to their preferences regarding accreditation philosophy and standards for respiratory care education.

Methods

Subjects

The subjects for the study were all 374 respiratory therapy program directors who were identified in JRCRTE's June 1997 listing of educational programs (JRCRTE, 1997). Of the 374 program directors, 63 directed only technician programs, 214 directed only therapist programs, and 97 directed both technician and therapist programs. Persons who directed both technician and therapist programs received only one survey.

Instrument

The survey instrument contained questions concerning the director's program, as well as statements about standards for the accreditation of respiratory care programs. These statements were followed by an open section for comments. The questions concerning the program asked the directors to identify their program type (technician, therapist, or both), as well as the highest certificate or degree they awarded for program completion.

Following the program questions were 42 statements on accreditation issues (see Appendix). The statements were developed by the authors based on the JRCRTE (1986) *Essentials*, the Respiratory Care Accreditation Board (RCAB) *Essentials* (RCAB, 1995), and the earlier opinion survey conducted by Douce and Wiezalis (1985). The directors were asked to circle the response that best described their reaction to each statement: strongly agree (SA), agree (A), neutral or no opinion (N), disagree (D), or strongly disagree (SD). The first draft of the survey instrument was reviewed for clarity and content by six experienced respiratory therapy educators. Following their review, a final version of the survey that incorporated their input was created.

Data Collection and Analysis

The survey, along with a cover letter and a postage-paid return envelope, was mailed to all program directors. The cover letter asked that the completed survey be returned within 2 weeks. Five weeks after the first mailing, when preliminary data analysis showed that they were under-represented, a second mailing was made to technician program directors who had not yet returned their surveys.

The chi-square test for goodness of fit was used to determine whether the returned surveys were representative of all program types. The percent of all subjects who selected each response to each statement was determined, and then this information was broken down by program type.

Results

There were 265 useable surveys returned, which represented 70.9% of the program directors who were surveyed. As shown in Table 1, of the returned surveys, 37 (14%) of

Table 1
Program Type and Certificate/Degree Awarded as Reported by Survey Respondents (N = 265)

	Certificate/Degree			
Type	Certificate	Associate	Baccalaureate	Master's
Technician	12.1%	1.5%	0.4%	0.0%
Technician and therapist	2.3%	19.2%	2.6%	0.0%
Therapist	0.4%	50.2%	10.9%	0.4%

the program directors reported that they had only technician programs, 64 (24.1%) reported that they had both technician and therapist programs, and 164 (61.9%) reported that they had only therapist programs.

In the 1997 JRCRTE program list, 16.8% of the program directors were identified as having only technician programs, 25.9% were identified as having both technician and therapist programs, and 57.2% were identified as having only therapist programs. The chi-square test for goodness of fit ($df = 2$) between survey responders and the entire population of programs was not significant at the $p < .05$ level. Also shown in Table 1, 14.8% of the programs awarded a certificate but no degree, 70.9% awarded the associate degree, 13.9% awarded the baccalaureate degree, and 0.4% (one program) awarded the master's degree.

Responses to Accreditation Statements by All Subjects

As shown in Table 2, the respondents overwhelmingly agreed (85%) with the statement that the standards should require a minimum of the associate degree in respiratory care. However, they disagreed (80%) with the statement that the minimum should be a baccalaureate in respiratory care. They also disagreed (82%) with the statement that the standards should not contain a minimum degree requirement.

The subjects were almost equally divided on their agreement/disagreement with statements that CoARC should continue to identify programs as either "technician" or "therapist," that associate degree programs should be identified as "entry level," and that baccalaureate degree programs should be identified as "advanced practice." A slight majority (57%) disagreed with the statement that the standards should not differentiate between entry level and advanced practice, but an overwhelming majority (76%) agreed that both associate degree and baccalaureate degree programs should be identified as therapist programs.

It was agreed that graduate performance on all of the NBRC examinations (entry level, written registry, and clinical simulation) should be strongly emphasized in the standards. It was also agreed that graduate job performance and graduates' evaluations of program quality should be emphasized in the standards.

There was agreement that the standards should specify both respiratory therapy and science/mathematics courses to be included in the curriculum, but the subjects did not agree that the standards should specify general studies courses. A majority of the subjects

Table 2

Percent of Program Directors Who Selected Each Response to Statements Concerning Accreditation (N = 265)

	SA	A	N	D	SD
Statement 1	62	23	2	9	3
Statement 2	3	8	9	25	55
Statement 3	8	6	4	21	61
Statement 4	21	22	8	24	25
Statement 5	25	24	6	23	22
Statement 6	20	23	8	24	25
Statement 7	16	18	9	34	23
Statement 8	41	35	7	9	8
Statement 9	34	48	8	6	5
Statement 10	26	51	10	12	2
Statement 11	21	49	13	13	4
Statement 12	3	9	6	48	35
Statmeent 13	15	57	12	12	4
Statement 14	24	44	17	14	1
Statement 15	16	40	12	22	9
Statement 16	16	44	12	22	6
Statement 17	14	29	9	37	10
Statement 18	14	35	11	29	11
Statement 19	26	47	7	16	5
Statement 20	53	31	8	5	2
Statement 21	20	33	13	21	13
Statement 22	18	39	16	20	6
Statement 23	18	29	14	25	14
Statement 24	33	43	5	15	3
Statement 25	27	52	9	9	3
Statement 26	39	42	8	15	5
Statement 27	14	48	14	16	8
Statement 28	22	40	14	18	6
Statement 29	5	31	13	35	15
Statement 30	12	29	11	33	16
Statement 31	12	46	10	26	6
Statement 32	6	28	20	28	17
Statement 33	12	50	20	23	8
Statement 34	9	8	12	43	28
Statement 35	11	53	12	16	7
Statement 36	43	46	5	3	2
Statement 37	5	27	20	36	12
Statement 38	6	40	18	26	9
Statement 39	11	48	17	16	8
Statement 40	9	49	17	19	5
Statement 41	15	67	8	8	2
Statement 42	13	60	11	12	3

Note. See Appendix for complete statements. SA = strongly agree; A = agree; N = neutral or no opinion; D = disagree; SD = strongly disagree.

(73%) agreed that general studies requirements are the prerogative of the sponsoring institution and should not be part of program accreditation.

A requirement for a full-time director of clinical education received overwhelming support (84%), but only a slight majority (53%) agreed that a medical director with administrative input in the program should be required. The respondents were only mildly more supportive (57%) of a requirement for a medical advisor who would focus on clinical content. The subjects were split on whether the standards should specify maximum student/faculty ratios, but a large majority did agree that the standards should specify minimum professional credentials (76%) and academic degrees (79%) for key personnel. Eighty-one percent agreed that key personnel should have an academic degree at least one level higher than the degree granted by the program.

The subjects agreed (62%) that there should be a detailed annual report and that programs should be free to choose their own goals, standards, and evaluation systems (62%). They were split (41% agreed and 49% disagreed) on the statement that the standards should require a minimum number of clinical hours, but they did agree (58%) with the statement that types of clinical experience should be specified. On the subject of specialty or expanded practice education, they were split on the statement that CoARC accreditation should be required, with 45% of the respondents disagreeing with the statement and 34% agreeing, but they did agree (62%) that such education should be allowed to take place outside of accredited programs.

Both statements dealing with specialty/expanded practice education drew a relatively large (20%) "neutral or no opinion" response. A large number (71%) disagreed with the statement that programs that are sponsored by regionally accredited institutions should not be required to maintain CoARC accreditation in order for graduates to sit for credentialing examinations.

There was agreement (64%) that there should be a standard concerning the quality of clinical affiliates, but there was no consensus on whether there should be a standard dealing with student attrition or graduate job placement. The statement that the maximum length of accreditation for established programs should be 10 years drew the highest agreement (89%) of any statement on the survey. There was agreement that there should be standards dealing with physician input (59%) and the assessment of library resources (58%). There was stronger agreement that the standards should require programs to assess laboratory (82%) and administrative/financial (73%) resources.

Responses to Accreditation Statements by Program Type

As shown in Tables 3, 4, and 5, the directors of the different program levels were in general agreement on most of the statements concerning accreditation. However, on 8 of the 42 statements there was a large difference (20% or greater) in the responses between the directors. The largest difference was found on Statement 1, which concerned the associate degree minimum. Fifty-nine percent of the technician program directors agreed that a minimum of an associate degree should be required, whereas 78% of the technician/therapist directors and 95% of the therapist program directors agreed with the statement. Along the same line, 40% of the technician program directors agreed that the standards should not contain a minimum degree requirement, but 19% of the technician/therapist and only 5% of the therapist program directors agreed with that statement.

Table 3

Percent of Technician Program Directors Who Selected Each Response to Statements Concerning Accreditation (N = 37)

	SA	A	N	D	SD
Statement 1	35	24	0	27	14
Statement 2	5	0	0	16	78
Statement 3	29	11	5	22	32
Statement 4	44	31	3	17	5
Statement 5	22	22	5	29	22
Statement 6	32	22	8	27	11
Statement 7	6	14	11	31	39
Statement 8	30	24	14	14	19
Statement 9	32	46	8	8	5
Statement 10	24	46	8	16	5
Statement 11	22	47	8	17	6
Statement 12	8	8	0	65	19
Statement 13	8	68	14	8	3
Statement 14	3	54	14	27	3
Statement 15	19	43	14	16	8
Statement 16	17	44	11	27	0
Statement 17	8	41	6	39	6
Statement 18	3	31	14	36	17
Statement 19	24	43	8	16	8
Statement 20	68	27	0	5	0
Statement 21	32	38	5	11	14
Statement 22	24	32	22	16	5
Statement 23	32	30	8	24	5
Statement 24	43	46	3	5	3
Statement 25	22	57	5	14	3
Statement 26	30	32	11	19	8
Statement 27	14	54	16	14	3
Statement 28	30	35	14	14	8
Statement 29	5	27	14	35	19
Statement 30	16	32	16	24	11
Statement 31	22	38	11	24	5
Statement 32	14	27	22	24	14
Statement 33	22	30	24	11	14
Statement 34	11	14	8	49	19
Statement 35	16	54	11	16	3
Statement 36	41	46	14	0	0
Statement 37	5	22	22	46	5
Statement 38	11	32	16	38	3
Statement 39	14	59	14	8	5
Statement 40	8	59	0	32	0
Statement 41	19	70	0	11	0
Statement 42	14	65	5	16	0

Note. See Appendix for complete statements. SA = strongly agree; A = agree; N = neutral or no opinion; D = disagree; SD = strongly disagree.

Table 4

Percent of Technician and Therapist Program Directors Who Selected Each Response to Statements Concerning Accreditation (N = 64)

	SA	A	N	D	SD
Statement 1	48	30	3	13	6
Statement 2	0	5	13	17	66
Statement 3	8	11	3	25	52
Statement 4	19	23	3	30	25
Statement 5	20	20	6	31	22
Statement 6	14	22	9	22	33
Statement 7	11	16	13	31	30
Statement 8	39	34	11	8	8
Statement 9	31	48	14	3	3
Statement 10	25	54	15	5	2
Statement 11	17	52	19	9	3
Statement 12	0	8	9	45	38
Statement 13	17	59	11	9	3
Statement 14	8	47	27	17	2
Statement 15	13	47	11	23	6
Statement 16	14	48	5	25	8
Statement 17	19	25	11	31	14
Statement 18	5	27	16	41	13
Statement 19	27	36	11	20	6
Statement 20	72	23	2	2	2
Statement 21	25	28	14	22	11
Statement 22	22	36	23	16	3
Statement 23	17	28	23	20	11
Statement 24	44	47	8	2	0
Statement 25	27	42	16	13	3
Statement 26	34	39	6	17	3
Statement 27	13	44	17	16	11
Statement 28	20	39	13	20	8
Statement 29	6	32	19	29	14
Statement 30	13	30	16	25	17
Statement 31	14	47	9	22	8
Statement 32	6	33	20	22	19
Statement 33	7	42	15	29	6
Statement 34	11	6	14	44	25
Statement 35	9	59	11	13	8
Statement 36	45	44	3	5	3
Statement 37	3	30	23	30	14
Statement 38	5	50	17	17	11
Statement 39	11	50	17	11	11
Statement 40	10	50	19	13	10
Statement 41	14	70	10	3	3
Statement 42	10	68	6	11	5

Note. See Appendix for complete statements. SA = strongly agree; A = agree; N = neutral or no opinion; D = disagree; SD = strongly disagree.

Table 5

Percent of Therapist Program Directors Who Selected Each Response to Statements Concerning Accreditation (N = 164)

	SA	A	N	D	SD
Statement 1	74	21	2	4	0
Statement 2	3	12	10	31	45
Statement 3	3	2	4	19	72
Statement 4	17	20	10	23	29
Statement 5	28	26	6	19	22
Statement 6	20	24	7	25	25
Statement 7	20	20	8	36	17
Statement 8	44	37	4	9	6
Statement 9	35	48	5	7	5
Statement 10	27	51	9	13	1
Statement 11	22	48	12	14	4
Statement 12	2	9	6	46	37
Statement 13	17	54	12	13	5
Statement 14	36	40	14	10	1
Statement 15	17	37	12	23	11
Statement 16	17	42	16	19	6
Statement 17	14	28	10	39	10
Statement 18	20	39	9	24	9
Statement 19	26	52	5	15	3
Statement 20	43	36	13	7	2
Statement 21	15	34	14	23	14
Statement 22	15	42	12	23	8
Statement 23	15	30	12	27	17
Statement 24	26	42	4	23	5
Statement 25	28	55	7	7	2
Statement 26	43	36	7	9	5
Statement 27	15	48	12	17	7
Statement 28	20	42	14	18	5
Statement 29	4	31	10	39	15
Statement 30	10	28	7	38	17
Statement 31	9	47	10	28	6
Statement 32	5	26	20	31	18
Statement 33	10	48	18	18	6
Statement 34	8	7	12	42	32
Statement 35	10	51	13	17	7
Statement 36	44	48	3	4	2
Statement 37	6	27	18	37	13
Statement 38	6	37	19	28	10
Statement 39	10	45	17	20	7
Statement 40	10	47	20	19	4
Statement 41	14	66	9	9	1
Statement 42	14	57	14	12	2

Note. See Appendix for complete statements. SA = strongly agree; A = agree; N = neutral or no opinion; D = disagree; SD = strongly disagree.

The issue of what to call programs also differed according to program type. Seventy-five percent of the technician program directors agreed that CoARC should continue to identify programs as either technician or therapist, while 42% of the technician/ therapist and 37% of the therapist program directors agreed with that statement. Forty percent of the therapist program directors agreed that the standards should not differentiate between entry level and advanced practice, whereas 27% of the technician/therapist and 20% of the technician program directors agreed with the statement.

All groups agreed that both associate and baccalaureate degree programs should be identified as therapist programs, but more therapist program directors agreed with the statement (81%) than did technician/therapist (73%) and technician (54%) program directors. While 59% of the therapist program directors agreed that the standards should specify general studies courses to be included in the curriculum, 32% of the technician/ therapist and 34% of the technician program directors agreed with that statement.

The groups also differed on whether or not there should be a medical director who had administrative input in the program. Seventy percent of the technician program directors agreed that an administrative medical director should be required, while 53% of the technician/therapist and 49% of the therapist program directors agreed with the statement. The final area of difference was over professional credentials. Ninety-one percent of the technician/therapist and 89% of the technician program directors agreed that the standards should specify minimum professional credentials for key personnel, but fewer therapist program directors (68%) agreed with the statement.

Discussion

Demographics

As demonstrated by the chi-square test for goodness of fit, the program directors who responded to this survey were representative of all respiratory therapy program directors based on program type. A similar test was not done for program level (certificate/degree) because the survey asked the directors to check the highest level awarded for completion of their program. JRCRTE does not list programs in that manner. As shown in Table 1, over 85% of the programs currently award a minimum of an associate degree. Based on this finding, approximately 60 programs will be affected by moving the minimum academic requirement to an associate degree.

Of the 14.8% of the programs that do not award a degree, it is not known how many would be able to offer an associate degree, either from their sponsoring institution or through a consortial arrangement with another institution. Only 13.9% of the programs award a baccalaureate degree, and one program awards a master's degree. But again, it is not known how many of the associate degree programs would be able to award a higher degree. What is apparent is that the predominate curricular design is the associate degree therapist program.

Program Directors' Preferences

Taken as a whole, program directors show strong support for establishing an associate degree minimum, but they do not support raising the minimum to the baccalaureate degree. They also support having the standards place strong emphasis on graduate

performance on the NBRC examinations: entry level, written registry, and clinical simulation.

In general, the program directors prefer more emphasis on process than is found in the current accreditation *Essentials* (JRCRTE, 1986). They believe that the standards should specify minimum professional credentials and academic degrees for faculty and that key personnel should have a degree at least one level higher than the degree offered by the program. They also agree that the standards should specify respiratory therapy courses and science/mathematics courses to be included in the program curriculum. However, they do not support including general studies courses in the standards, but rather agree that such courses fall under institutional prerogative.

The program directors strongly support a requirement for a full-time director of clinical education, but their preferences were less clear on the subject of medical direction. While a slight majority agree that there should be a medical director with administrative input in the program, this finding seems to be skewed by the very strong support of the technician program directors. The therapist program directors, who made up over 60% of our sample, do not support the administrative medical director. All program types do agree that the standards should require a medical advisor whose main focus would be the clinical content of the curriculum.

In addition to their support of requiring NBRC examination performance as an outcome measure, the program directors agreed that graduate job performance and graduates' evaluations of program quality should be used. This is in direct contradiction of their agreement that programs should be free to choose any goals, standards, and evaluation systems rather than being required to use a predetermined set.

Another paradox was that in the comments section, many program directors stated that the standards should be heavily outcome-oriented and should place little or no emphasis on process. The results, however, show that most of them support a great deal of process orientation in the standards. In addition to the curriculum requirements outlined above, they support assessment of library, laboratory, and administrative/financial resources. They also believe that physician input should be required and that the quality of clinical affiliates should be assessed. They did draw the line (just barely) at a requirement for a minimum number of clinical hours.

The issue of accreditation for specialty or expanded practice education brought interesting results. The program directors agreed that this type of education should be allowed to take place outside of accredited respiratory therapy education programs, but they were split on whether CoARC should accredit specialty/expanded practice education. This confusion may stem from the fact that the authors failed to clearly define the terms *specialty* and *expanded practice*.

Program directors did disagree with the notion that programs that are sponsored by regionally accredited institutions should not have to maintain CoARC accreditation in order for their graduates to sit for credentialing examinations. Even though it is apparent that they find benefit in program accreditation, the vast majority of program directors agree that the maximum accreditation period for established programs should be 10 years rather than the current 5-year maximum.

The area where it is difficult to interpret the survey results deals with what to call

programs. Should programs be called entry level or advanced practice? Should they be identified as technician or therapist? Should we continue to use these terms at all? It is a weakness of this study that not enough clear questions were asked on these topics in order to identify the directors' preferences. However, it may be the case that the current accreditation and credentialing systems are so confusing that there is not a consensus on these issues. The only statement in this area that garnered agreement from the directors of all program types was that both associate and baccalaureate degree programs should be identified as therapist programs.

It must be remembered that these are the opinions of a small segment of the respiratory therapy community. While program directors are the most conversant with accreditation standards, it would be appropriate to seek the opinions of other interested groups. Certainly the opinions of respiratory care practitioners and managers would be valuable on a number of these issues. Academic administrators, who deal with the accreditation standards of a number of professions, would also provide useful input.

Conclusion

Although this survey provides an overview of program directors' preferences on a number of accreditation issues, in general there is a dearth of research on respiratory care accreditation. As is demonstrated in this survey, program directors support a minimum standard of an associate degree in respiratory care. They also agree that educational programs, whether at the associate or baccalaureate level, should be identified as therapist programs.

The program directors support a number of process and outcome standards, such as specific curricular guidelines, minimum faculty credentials, and graduate results on credentialing examinations. However, there is little scientific basis for these beliefs. The lack of research available to program directors makes it difficult for them to provide direction as new standards are developed. Because of this, educational researchers and accreditation boards should consider conducting research related to the validity and reliability of programmatic accreditation standards.

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Appendix
Statements Concerning Respiratory Therapy Accreditation Issues

1. The standards should require that program graduates receive, at minimum, the associate degree in respiratory care.

2. The standards should require that program graduates receive, at minimum, the baccalaureate degree in respiratory care.

3. The standards should not contain a minimum degree requirement for program graduates.

4. The Committee on Accreditation for Respiratory Care (CoARC) should continue to identify programs as either "technician" or "therapist."

5. Associate degree programs should be identified as "entry level."

6. Baccalaureate degree programs should be identified as "advanced practice."

7. The standards should not differentiate between "entry level" and "advanced practice."

8. Both associate degree and baccalaureate degree programs should be identified as "therapist programs."

9. The standards should place strong emphasis on graduate performance on the National Board for Respiratory Care (NBRC) entry level examination.

10. The standards should place strong emphasis on graduate performance on the NBRC written registry examination.

11. The standards should place strong emphasis on graduate performance on the NBRC clinical simulation examination.

12. The standards should not be tied to the NBRC examinations.

13. The standards should place strong emphasis on graduate job performance.

14. The standards should place strong emphasis on graduates' evaluations of program quality.

15. The standards should specify respiratory therapy courses/units of instruction to be included in the curriculum.

16. The standards should specify science and mathematics courses/units of instruction to be included in the curriculum.

17. Science and mathematics requirements are the prerogative of the sponsoring institution and should not be part of program accreditation.

18. The standards should specify general studies (e.g., communication, psychology, sociology) courses/units of instruction to be included in the curriculum.

19. General studies requirements are the prerogative of the sponsoring institution and should not be part of program accreditation.

20. The standards should require a full-time director of clinical education.

21. The standards should require a medical director who has administrative input in the program.

22. The standards should require a medical advisor whose main focus is the clinical content of the curriculum.

23. The standards should specify maximum student/faculty ratios.

24. The standards should specify minimum professional credentials for key personnel (program director, director of clinical education, medical director).

25. The standards should specify minimum academic degrees for key personnel.

26. Key personnel should have an academic degree at least one level higher than the degree granted by the program.

27. A requirement for a detailed annual report should be included in the standards.

28. Programs should be free to choose any goals/standards/evaluation systems.

29. The standards should require programs to use a predetermined set of goals/standards/evaluation.

30. The standards should require a minimum number of hours of clinical education.

31. The standards should specify types of clinical experiences (e.g., critical care, home care, pediatrics) to be included in the curriculum.

32. CoARC accreditation should be required for specialty/expanded practice (e.g., perinatal/pediatric, pulmonary function, critical care) education.

33. It is acceptable for specialty/expanded practice education to take place outside of accredited respiratory therapy education programs.

34. Programs that are sponsored by regionally accredited institutions should not be required to maintain CoARC accreditation in order for graduates to sit for credentialing examinations.

35. There should be a standard concerning the quality of clinical affiliates.

36. The maximum length of accreditation for established programs should be 10 years.

37. There should be a standard dealing with student attrition.

38. There should be a standard dealing with graduate job placement.

39. There should be a standard requiring physician input.

40. There should be a standard requiring programs to assess library resources.

41. There should be a standard requiring programs to assess laboratory resources.

42. There should be a standard requiring programs to assess administrative/financial resources.

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THE IMPORTANCE OF COMMUNICATION SKILLS AND INSTRUCTION IN RESPIRATORY CARE PROGRAM CURRICULA

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Abstract

This project investigated program director perception of the importance of communication skills for respiratory care students and methods of teaching and evaluating skill attainment by students. A survey instrument addressing communication skills was developed and mailed to 300 program directors, of which 163 responded and reported that communication skills are important qualities for students. Communication skills instruction is well incorporated into program curricula: Directors reported that instruction and evaluation in these skills takes place within respiratory care department courses. Skills instruction by other departments is quite common among programs. Programs that include effective communication skills as a program goal measure attainment primarily through evaluation by clinical instructors. Program directors felt that communication skills are important skills for respiratory care students to possess. Training in these skills is prevalent within program curricula.

The Importance of Communication Skills and Instruction in Respiratory Care Program Curricula

Respiratory care practitioners (RCPs) communicate during a large portion of their working time. As a result of the high degree of patient contact and the locations where these patients are treated, practitioners constantly communicate with the patient, the patient's family, RCPs, physicians, nurses, and other allied health professionals. In a Delphi study of the future educational needs of RCPs, O'Daniel et al. (1992) reported that 99% of the panelists believed that communication skills were important cognitive skills needed by future practitioners. Other skills rated as important that involve communication included patient education skills and patient-oriented interview skills (O'Daniel et al., 1992).

In its 1977 *Essentials*, the Joint Review Committee for Respiratory Therapy Education (JRCRTE) required all accredited programs to include a course, module, or unit on communication skills in the program curriculum (JRCRTE, 1977). When the *Essentials* were revised in 1986, JRCRTE (1986) omitted the requirement of specific instruction in communication skills. The findings of the Delphi study suggest that these skills will be important for future practitioners (O'Daniel et al., 1992). If instruction is not specifically required by the accrediting agency, programs that do not provide this instruction may be preparing practitioners who are not sufficiently trained in these important skills.

The purpose of this project was to investigate the perception of respiratory care program directors regarding the importance of communication skills for respiratory care students, the methods by which communication skills are included in the curriculum, and the methods used by programs to evaluate attainment of effective communication skills by students and/or graduates. In addition, the respondents were asked to provide information about how their program provides communication skills instruction.

Review of the Literature

In an article on the role of communication in the health and social sciences, Thompson (1984) reported that only physicians and nurses had been the objects of notable communication research and that research about communication and other health professions was virtually nonexistent. The literature has not changed to any great extent in this regard. Although numerous studies that address communication among physicians and nurses appear, there is a scarcity of relevant literature concerning RCPs and other health professionals.

The benefits of effective communication between patients and health care professionals have been well described. Effective communication can promote the delivery of high quality health care, while ineffective communication can seriously deter the quality of health care delivery (Burnett & Thompson, 1986; Kreps, 1988). This suggestion was further supported by a 35-year review of the literature concerning the communication skills of general practice physicians and the benefits to their patients (Del Mar, 1994).

The importance of effective communication skills for nursing students and practicing nurses has likewise been the subject of many published reports. These skills are essential

for the practitioner to conduct a thorough assessment of the patient, establish an accurate diagnosis, solicit patient cooperation, and provide for patient counseling and education (Costello, 1977; Talento, 1986). Skills reported to be most important for nursing students and practitioners include speaking, listening, persuasive speaking, providing clear directions, and empathizing with patients (Johnson, 1994; Wilmington, 1986).

Other skills identified as important competencies for nursing professionals include advising, routine exchanging of information, giving orders, and managing conflict (Morse & Piland, 1981; Worobey & Cumming, 1984). Bolstad (1992) suggests that the need for communication skills in the nursing profession is much higher than in other fields because of the necessity for building rapport with the patient. Communication skills are certainly important for any health care professional who has direct contact with patients on a regular basis.

Although literature on communication skills in other health professions is scarce, the value of these skills is stated in several reports. The most frequently mentioned skill that managers look for in a respiratory therapist is communication skills, according to a survey of 170 respiratory care managers across Canada (Howard, 1995). In a similar study of radiography managers, good oral and written communication skills are expected of radiographers, and these skills were rated as very important both presently and in the future (Terrell-Nance & Thomas, 1995). Effective communication skills are also essential to the successful clinical practice of physician assistants (Elsea, 1988).

Several strategies for teaching effective communication skills are described in the nursing literature. These strategies include changing from lecture mode to small group discussion to provide more opportunity for student involvement and using videotapes to review communication skills performance (Menikheim & Ryden, 1985).

Pagana and Gingrow (1990) describe the success of an approach that incorporates public speaking skills as well as an overview of the communication process and common barriers to effective communication within the course content. Following the presentation of a case study by a student, classmates and the instructor each provide feedback on three positive things the presenter did and three things that could be improved.

A similar “integrated skills reinforcement” technique, described by DeSimone (1994), reinforces students’ writing, reading, speaking, and listening skills as they learn the content of a nursing curriculum. Students also need sufficient opportunity to practice communication techniques before applying them in the clinical setting (Duespohl, 1984).

This review of the literature supports the need for effective communication skills in health care professionals, although most of the studies and recommendations discussed were directed to physicians and nurses. In a survey of 292 allied health program directors, communication/interpersonal skills was the applicant quality most valued by respondents, substantiating the importance of these skills in other health care professionals (Scott et al., 1995).

The skills most often cited as important include providing information, using clear language, providing instructions, communicating empathy, listening, and writing clearly. The importance of these skills dictates that instruction in these skills be included in program curricula. Several strategies for developing effective communication skills in students were also described.

COMMUNICATION SKILLS SURVEY

1. What degree is awarded to students upon completion of your program? ___ Associate Degree ___ Bachelors Degree

2. In your opinion, how important are the following communication skills for respiratory care students?

Verbal Communication
- ___ Providing information
- ___ Using clear, understandable language
- ___ Providing instructions
- ___ Checking for patient understanding
- ___ Involving the patient in decision making
- ___ Communicating empathy

KEY
1 = Not Important
2 = Somewhat Important
3 = Important
4 = Very Important

- ___ Listening
- ___ Written Communication

3. Please complete the following table regarding communication skill instruction in your program.

	Does the curriculum provide instruction in this skill?	How is the instruction provided?		Who provides the instruction?	
Skill	Yes/No	Resp Care Course	Other Course (identify dept)	Resp Care Faculty	Other Faculty (identify dept)
Verbal Communication: Providing information					
Using clear, understandable language					
Providing instructions					
Checking for patient understanding					
Involving the patient in decision making					
Communicating empathy					
Listening					
Written communication					

4. Does your program include effective communication skills as a Program Goal? ___Yes (Answer Question 5) ___No

5. How is achievement of this goal measured?

_____

Thank you for your cooperation. Please return your completed survey in the stamped envelope provided. If you would like to receive a copy of the survey results, please provide your name and mailing address.

Figure 1. Communication skills survey sent to 300 respiratory care program directors; 163 were returned, yielding a 54% response rate.

Method

A survey instrument (see Figure 1) was developed consisting of four questions addressing the following topics: (a) the importance of specific communication skills for respiratory care students, (b) the manner in which communication skills instruction is provided within the program, (c) the inclusion of effective communication skills as a program goal, and (d) how achievement of this goal is measured. These four questions were developed through discussion with an expert in the field of health care communication.

Respondents were also asked to indicate whether an associate or baccalaureate degree was awarded to students upon completion of their program. The specific communication skills included in the survey were selected on the basis of being identified as important in the literature reviewed.

A pilot study was conducted using a convenience sample of 30 programs. Surveys and a cover letter were mailed to the directors of these programs, along with a stamped, addressed envelope to facilitate prompt return of the completed forms. After 24 of these surveys were returned, they were evaluated for completeness and clarity of responses. No changes to the instrument were indicated, and surveys were then mailed to the 270 remaining therapist programs listed in the current *JRCRTE Directory of Accredited Programs.*

Data were analyzed using Execustat Student Edition statistical software to calculate frequency distribution of responses and means and standard deviations for the responses that utilized a Likert scale. Differences between associate and baccalaureate degree programs for these items were also evaluated using *t* tests with $\alpha = 0.05$.

Results

A total of 300 surveys were mailed and 163 were returned, yielding a 54% return rate. No attempt was made to contact programs that did not respond. Surveys were returned by 139 associate degree programs and 24 baccalaureate degree programs. There are currently 28 baccalaureate degree programs in the country, so the return rate for these programs (86%) was higher than for associate degree programs (51%).

Program Directors' Perceptions of the Importance of Communication Skills

The first question on the survey asked program directors to indicate how important specific communication skills are for respiratory care students. Directors were asked to indicate their opinion using a 4-point Likert scale: 1 = not important, 2 = somewhat important, 3 = important, and 4 = very important. The means and standard deviations for their responses are shown in Table 1, as are *p* values for the comparison of responses from directors of associate degree programs and baccalaureate degree programs.

The perception of the program directors was that all of the specific communication skills are important for respiratory care students. The responses to involving the patient in decision-making and communicating empathy were somewhat lower than for the other

Table 1
Program Directors' Perceptions of the Importance of Communication Skills

	AS programs (n = 138)	BS programs (n = 25)	
Skill	Mean (*SD*)	Mean (*SD*)	*p*
Verbal communication			
Providing information	3.82 (0.42)	3.88 (0.33)	0.48
Using clear language	3.86 (0.35)	3.96 (0.20)	0.04[a]
Providing instructions	3.86 (0.35)	3.96 (0.20)	0.04[a]
Checking for patient understanding	3.80 (0.40)	3.88 (0.33)	0.27
Involving the patient in decision-making	3.27 (0.73)	3.52 (0.71)	0.12
Communicating empathy	3.41 (0.66)	3.68 (0.48)	0.02[a]
Listening	3.89 (0.33)	4.00 (0.00)	0.11
Written communication	3.78 (0.41)	3.92 (0.28)	0.04[a]

Note. Judgments were made using a 4-point Likert scale: 1 = not important, 2 = somewhat important, 3 = important, and 4 = very important. AS = associate degree; BS = baccalaureate degree.
[a] Indicates a statistically significant difference between AS programs and BS programs.

Table 2
Communication Skills Instruction Provided Within Programs

Skill	AS programs	BS programs
Verbal communication		
Providing information	97%	92%
Using clear language	96%	83%
Providing instructions	96%	92%
Checking for patient understanding	89%	88%
Involving the patient in decision-making	60%	63%
Communicating empathy	83%	75%
Listening	81%	75%
Written communication	96%	92%

Note. AS = associate degree; BS = baccalaureate degree.

skills, but these skills were still seen as quite important. As indicated by the *p* values, there was a statistically significant difference between the responses of directors of associate degree programs and directors of baccalaureate degree programs regarding the importance of the oral communication skills of using clear language, providing instructions, and communicating empathy, and the importance of written communication skills for practitioners.

Table 3
Where Programs Provide Instruction in Specific Skills

	AS programs		BS programs	
Skill	RC course	Other course	RC course	Other course
Verbal communication				
Providing information	81%	53%	75%	42%
Using clear language	83%	45%	71%	42%
Providing instructions	94%	19%	100%	21%
Checking for patient understanding	88%	10%	92%	13%
Involving the patient in decision-making	60%	7%	71%	8%
Communicating empathy	76%	16%	75%	21%
Listening	73%	27%	67%	21%
Written communication	79%	66%	75%	67%

Note. AS = associate degree; BS = baccalaureate degree; RC = respiratory care.

Table 4
Methods to Evaluate Student Achievement of Effective Communication Skills

Evaluation method	Programs using this method	Rank
Instructor evaluation	45	1
Employer evaluation	25	2
Class, clinical, or case study presentations	12	3
Graduate self-evaluation	9	4
Physician evaluation	6	5
Evaluation of written materials	5	6
Patient evaluation	3	7
Student portfolio	2	8
Oral examinations	1	9
Return demonstrations	1	9
Exit interviews	1	9

Communication Skill Instruction Within Programs

The second question asked the program directors if communication skills instruction was provided within their programs. Their responses are shown in Table 2. With the exception of involving the patient in decision-making, almost all of the programs indicated that instruction in communication skills is included within their programs.

The respondents indicated that instruction in all of these skills is provided within respiratory care program/department courses (see Table 3). When instruction in oral

communication skills is provided within courses outside of the respiratory care program/department, it is most often provided within communication and speech courses, followed by English and psychology courses respectively. When instruction in listening skills is provided within courses outside of the respiratory care program/department, it is most often provided within speech and communication courses. When instruction in written communication skills is provided within courses outside of the respiratory care program/department, it is provided almost entirely within English courses.

Effective Communication Skills as a Program Goal

Graduates attaining effective communication skills is included as a program goal by 43% of the associate degree programs and 50% of the baccalaureate degree programs. The methods of evaluating student achievement of this goal are listed in Table 4. Evaluation by the clinical instructor was the most frequently reported method, followed by employer evaluation of the graduate and evaluation during class, clinical, or case study presentations. Most of the programs that included effective communication skills as a program goal utilized multiple evaluation methods, as required by the JRCRTE (1986) *Essentials.*

Discussion

The importance of effective communication skills for physicians and nurses has been discussed extensively in the literature. Although other health care professionals have as much direct contact with patients as nurses, and probably more contact than physicians do, there is not a substantial amount of literature available on the communication skills of these other professionals.

If effective communication skills are important for RCPs, academic training programs should include instruction in these skills and evaluate the extent to which students demonstrate effective skills performance. The purpose of this project was to investigate the perception of respiratory care program directors regarding the importance of communication skills for respiratory care students, the methods by which communication skills are included in the curriculum, and the methods used by programs to evaluate attainment of effective communication skills by students and/or graduates.

The survey had an overall return rate of 54%. The reason for the higher proportional return by baccalaureate programs is not clear. In general, program directors felt that communication skills were important skills for respiratory care students, with the mean responses for all skills falling within the “important” and “very important” descriptors. This finding is consistent with those of Johnson (1994) and Wilmington (1986) in their studies of important communication skills for nursing students.

The responses to involving the patient in decision-making and communicating empathy were lower than for other skills, although the directors still indicated that these skills were important. The lower percentage of responses for involving the patient in decision-making corresponds with the lower mean score for the directors’ perception of the importance of this skill, although more than half of the programs include instruction in this skill. The involvement of the patient in decision-making may have been perceived as more of a patient care issue than a specific communication skill, resulting in a lower

score on the scale of importance. Communicating empathy can be a difficult skill to teach and evaluate, and it is quite natural to place less importance on skills we cannot have as much control or influence over.

Instruction in communication skills is well incorporated into the curricula of respiratory care programs. Most programs reported that instruction and evaluation in these skills takes place within respiratory care department courses, particularly clinical courses, where students have opportunity to practice and be evaluated on these skills. JRCRTE (1986) *Essentials* dictate that student evaluation must include the affective domain as well as cognitive and psychomotor performance. This requirement forces programs to monitor the performance of the student in affective skills and has naturally led to inclusion of communication skills as part of affective performance. Since these skills are evaluated, the program must then include them in the curriculum and plan for instruction in this area.

The provision of instruction in communication skills by academic departments other than respiratory care is quite common among the programs participating in the survey. As training programs moved out of hospitals and into colleges and universities, the resources of departments of speech, communication, and English became available, and programs may have taken advantage of the expertise that faculty from these departments could provide. This arrangement complements the clinical psychomotor training provided by the respiratory care department and produces practitioners capable of addressing the social and emotional needs of the patient as well as treating or preventing underlying illness.

Respiratory care programs that include effective skills communication as a program goal have developed numerous methods of evaluating attainment of this goal. Evaluation by the clinical instructor is the most frequently reported method. This format relies on development of an appropriate instrument for evaluation as well as training of clinical instructors to ensure that the skills of the students are evaluated fairly and consistently.

The incorporation of additional methods, such as employer surveys and evaluation during oral presentations, provides additional information about how well the students and/or graduates develop their communication skills. Programs are required to use multiple measures for evaluating attainment of program goals and standards, and this directive may have improved the overall evaluation of student performance.

One of the limitations of the study is the return rate of 54%, so that the results represent the opinions of approximately half of the current program directors. Additional limitations include the fact that no attempt was made to increase the return rate by contacting programs that did not respond, and no attempt was made to compare respondents and nonrespondents. The differences in the responses of directors of associate degree and baccalaureate degree programs presented in Tables 2 and 3 were not evaluated with a test of statistical significance.

The results of this survey indicate that program directors feel that communication skills are important skills for respiratory care students to possess and that training in these skills is prevalent within program curricula. Further research should be directed at investigating how successful programs are in achieving the goal of effective communication and which strategies for developing communication skills are most effective. Since this survey specifically addressed the communication skills of students, additional research into the

skills level of RCPs is also warranted. Programs retain information about the communication skills of students and perhaps evaluate performance one year after graduation from the program, but study of the development and refinement of communication skills throughout a practitioner's career would be extremely helpful.

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USING FREQUENCY OF PERFORMANCE IN AFFECTIVE EVALUATION OF STUDENTS

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Abstract

Current accreditation standards require evaluation of student performance in the affective domain. This study was conducted to develop a method of evaluating performance and delineating a grade in that domain. We developed a list of 22 attributes from the AARC Delphi study (O'Daniel et al., 1992) and asked attendees at the 1996 AARC Summer Forum to indicate the minimal frequency of performance for a satisfactory rating in each attribute. Seventy attendees returned completed questionnaires. On 7 attributes a frequency of "always" was required for a satisfactory rating by ≥ 80% of respondents, while on the remaining 15 attributes, less than always was required. We constructed a clinical affective evaluation instrument, based on the questionnaire, that can be used to determine a grade in affective behavior and to partly determine a resulting letter grade for student performance in clinical practice courses.

Using Frequency of Performance in Affective Evaluation of Students

The teaching and evaluation of educational objectives in the cognitive, psychomotor, and affective domains are required components of accredited educational programs for the preparation of respiratory care practitioners (Joint Review Committee for Respiratory Therapy Education, 1992). There is very little debate that adequate performance in all three domains is necessary for the graduating practitioner to be successful in clinical practice. This point was well stated by Scanlan, West, Dolan, and von der Heydt (1984) more than a decade ago:

> Procedural expertise and knowledge alone cannot guarantee success as a respiratory care practitioner. The competent professional continually strives to integrate professional proficiency with consistent patterns of effective behavior. Ultimately, such behavior complements one's technical expertise and assures that the overall quality of services provided by the practitioner meets the expectations of consumers, providers and the profession alike." (p. 289)

While the value of performance in behavioral attributes is well accepted, the methods to evaluate that performance in educational programs are poorly developed. This is especially true when it comes to grading clinical performance (Andrusyszyn, 1989; Rinne, 1987).

Our purpose was to construct a method of evaluating professional behavioral attributes that would lend itself to both adequate assessment of performance and delineation of a grade in the affective domain. In 1991 the Delphi study conducted by the AARC Education Committee identified 22 professional characteristics, traits, and attributes of the future respiratory care practitioner (O'Daniel et al., 1992). Although we adopted these 22 attributes to set expectations of our students, the Delphi study did not identify a quantifiable criterion on which successful performance could be separated from unsuccessful performance. The utility of the list of attributes was, therefore, limited.

Our previous evaluation instrument asked clinical instructors to rate how often (from *always* to *never)* students displayed the 22 behaviors. We had not defined a minimal frequency. Thus, we felt we were unable to define successful performance or to use the existing evaluation instrument to assign a grade to the affective portion of student performance.

Our observations corresponded with Scanlan's observations of behavioral ratings (Scanlan et al., 1984): "The traits that constitute professional behavior are observed in degrees. Quantification of such traits must therefore focus on either how *much* of a given characteristic is present or how *well* it is exhibited or performed" (p. 290). Our first step was to expand upon the usefulness of the list of 22 items that came from the Delphi study by identifying a valid quantification of successful performance based on frequency.

We designed a written questionnaire that listed the 22 affective attributes and distributed it at the general sessions of the 1996 AARC Summer Forum in Orlando, Florida. Descriptors were added to the items based on the thesaurus in the word processing program WordPerfect 5.1. On the questionnaire we asked educators, managers, and clinicians to identify the minimal frequency for successful performance in each attribute that should be demonstrated by graduates. The four choices of minimal

Table 1
Percent of Frequency of Attributes Graduates Should Demonstrate (N = 70)

Attribute	Always	Usually	Sometimes	Rarely
Has professional appearance	91	9	0	0
Responsible for actions	88	12	0	0
Honest	87	13	0	0
Courteous	84	15	1	0
Punctual	82	18	0	0
Dependable/reliable	81	18	1	0
Willing to learn	80	19	1	0
Sensitivity and respect for the personal needs of others	72	28	0	0
Communicates concisely and appropriately	72	28	0	0
Tolerant	65	33	2	0
Respectful of authority	62	38	0	0
Compassionate	62	37	1	0
Efficient in planning and time management	60	36	4	0
Motivated for continued learning	55	41	4	0
Flexible in adapting to clinical assignments	55	40	5	0
Tactful	52	45	3	0
Has personable demeanor	50	47	3	0
Confident in abilities	41	52	7	0
Self-directed	40	51	9	0
Shows initiative for additional activities	33	58	9	0
Controls stress	32	65	3	0
Has sense of humor (when appropriate)	13	67	20	0

frequency were listed as “always,” “usually,” “sometimes,” or “rarely.” Respondents returned their completed questionnaire prior to leaving the meeting; respondents were not asked to identify themselves on the questionnaire.

Questionnaires were distributed to 159 attendees. Seventy individuals returned completed forms, resulting in a 44% response rate. Of the 70 respondents, 41 identified themselves as educators, 22 as managers, and 3 as clinicians; 4 did not list an affiliation. Table 1 lists the frequency of responses for each of the 22 items.

We sought 80% or greater agreement among respondents. Seven items received a minimal frequency of always by 80% or more of respondents. Fifteen items received a minimal frequency of less than always, i.e., a combination of always and usually, by 80% or more of respondents. On one item in the latter category, “has sense of humor (when appropriate),” more than 80% of respondents indicated a minimal frequency for a satisfactory rating in the combination of usually and sometimes as well as in always and usually. No item received a minimal frequency of rarely. We used 80% as a criterion for dividing the items into sets in order to exceed the 75% criterion used in the Delphi study

for rating the items as "important" and "necessary for entry level or advanced level practitioners" (O'Daniel et al., 1992).

The results of the survey indicated that 7 of the 22 attributes should be demonstrated by graduating students at a frequency of always if the students are to receive a satisfactory rating in those items. Also, the results indicated that in the other 15 attributes, a frequency less than always is sufficient for a satisfactory rating.

In the second part of this project, we applied the results of the survey to the development of an instrument for evaluation of affective student performance in clinical practice rotations. Figure 1 is the resulting evaluation instrument. Underlying the use of the results of the survey is the assumption that frequency of performance required for a satisfactory rating at graduation is an appropriate criterion on which to evaluate end-of-clinic performance of students during the educational program.

The 7 attributes that require always as minimal frequency of performance were given a rating scale of "satisfactory" or "unsatisfactory" because any performance less frequently observed than always would be less than satisfactory. The other 15 attributes were given a rating scale of "outstanding" or "satisfactory" or "unsatisfactory" because a clear dichotomy as to minimal frequency of performance was not identified. On these latter items, student performance consistently at the always level is truly superior to the minimal frequency identified by a large portion of the respondents. Therefore, some rating higher than satisfactory can be awarded on these items.

We pilot-tested the instrument during a one-quarter general clinical practice rotation in our baccalaureate respiratory therapy program. We used it to evaluate the affective performance of three clinical groups of junior-level students. The students were evaluated twice during the quarter, formatively and then to determine their affective score. Students earned a base grade of 70% (C-) for a rating of satisfactory in all 22 attributes. This was defined by the course syllabus as the minimal acceptable level of performance.

We determined that for each outstanding rating in the list of 15 items that can be rated at that level, 4 additional points would be added to the affective score. As a result, six ratings of outstanding would be needed to bring the affective evaluation score up to the level of an A (> 92%). The maximum affective score could not exceed 100%.

The students' affective scores ranged from 78 to 94, with mean scores of the 3 groups being 92, 91, and 84. The preceptors who used the instrument reported being satisfied with both its contents and process for determining the score. The majority of students strongly agreed or agreed with the statements that the evaluation form and process appropriately assessed their professional attributes. The feedback indicated a need for some additional training of preceptors in use of the instrument. The affective evaluation score was combined with evaluation scores from other domains to bring about numerical and letter grades for clinical performance for the quarter.

In conclusion, we were able to determine minimal frequency of performance on each of 22 professional attributes as the results of the written questionnaire. The results of that research were applied to the development of an evaluation instrument that can be used to determine a grade in affective behavior and to partly determine a resulting letter grade for student performance in clinical practice courses. A clear consensus of clinical faculty and careful orientation of students as to the definition of outstanding performance on each of

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RESPIRATORY THERAPY DIVISION
Affective Evaluation

The Affective Evaluation contributes 20% to clinical course grades. To receive a passing score in a clinical rotation, students must receive a minimal rating of S (Satisfactory) in all attributes. Fifteen attributes may be rated as O (Outstanding), and each Outstanding rating adds 4% to the final affective score. One hundred percent is the maximum score.

Student Attributes	O	S	U
Sensitive to and respect for the personal needs of others (Sympathetic, Understanding, Insightful, Perceptive, Considers modesty)			
Compassionate (Empathetic, Sympathetic)			
Tolerant (Accepting, Patient, Non-judgmental)			
Has personal demeanor (Likable, Friendly, Warm)			
Communicates concisely and appropriately (Succinct & direct reporting of patient condition, Not verbose, Communicates appropriate information, Applies confidentiality, Uses appropriate medical terminology)			
Tactful (Diplomatic, Thoughtful, Judicious)			
Flexible in adapting to clinical assignments (Adaptable, Compliant)			
Efficient planning and management of time (Completes assignments on time, Is able to prioritize work)			
Confident in abilities (Self-assured, Poised, Not arrogant)			
Respectful of authority (Follows chain of command, Accepts assignment without complaining, Accepts constructive criticism)			
Controls stress (Maintains composure, Contains emotion in a stressful situation)			
Shows initiative in seeking out new responsibilities (Ambitious, Driven)			
Self-directed (Able to function with minimal supervision)			
Motivated for continued learning (Initiates learning activities which enhances or enriches clinical performance)			
Has sense of humor when appropriate (Witty, able to put people at ease using humor)			
Courteous (Considerate, Polite, Kind)			
Has professional appearance (Well-groomed, Neat, Clean, Adheres to facility's dress code)			
Honest in interaction with patients and staff (Displays integrity, Forthright, Sincere, Applies discretion)			
Dependable/Reliable (Completes assignments with minimal direction, Trust worthy, Credible, Responsible)			
Punctual (Is on time, Prompt)			
Responsible for actions (Admits mistakes, is accountable for assigned work)			
Willing to learn (Participates in learning activities which enhances or enriches clinical performance)			

Figure 1. Revised clinical affective evaluation form.

Note. Permission is granted to reproduce and use this form.

the 15 attributes rated outstanding, satisfactory, or unsatisfactory are necessary for proper use of the evaluation instrument.

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