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ATTITUDE CHANGES AMONG STUDENTS ENGAGED
IN INTERPROFESSIONAL EDUCATION:
FURTHER RESULTS AND DISCUSSION

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Introduction

The study of attitude change among students engaged in interprofessional education courses at the Ohio State University has been of interest to faculty, researchers and funding sources for the past five years. While research in attitude change is difficult and imprecise at best, it still remains an important component in measuring the success of efforts to provide opportunities for education in interprofessional collaboration. Attitude changes signal a shift in the student's approach to professional practice and are an important component in the process of professional socialization. Indeed, some researchers have demonstrated that professional identity and accompanying attitudes may be among the most long-lasting effects of professional education (Simpson, 1979; Waugaman, forthcoming, 1987). They point out that pre-service education is the arena in which professionals begin to formulate, refine and adopt the values of their profession and their attitudes about professional practice.

These values and attitudes continue to shape the student's professional practice throughout their career resulting in extended professional commitment and a high degree of self-identification with the profession. Education for the professions and the values and attitudes which it develops has a meaning, therefore, which extends beyond the boundaries of transmitting a specific body of knowledge or a particular group of skills. It has a continuing impact on the practice of the profession and the shape of that practice. Through the attitudes and values that are formed, pre-service education influences the identity and self-understanding of the professional long after its formal conclusion. Therefore, the study of changes in attitudes is important in assessing the long-term effects interprofessional education has on professional practice.

Background Of The Study

This study is based on the same theoretical assumptions with regard to the traits of the learner and the nature of attitude formation and attitude change as the study presented at the Seventh Annual Conference on Interdisciplinary Health Team Care in 1985. In that study we adopted a view of people as "holistic and open" (Casto, et.al., 1986, p. 201). We argued that the person is "selective, organismic and developmental" (White, 1975, p. 19). Pedagogically, this view correlates with the principles of adult learning which Malcolm Knowles presents (Knowles, 1980).

We defined "attitude" in accordance with Irving White: "an attitude is the internalized 'choice' reflecting an individual's predisposition to actively select and organize his experience in relatively continuous and

predictable ways. These predispositions are products of biological, personal and cultural forces working toward an identity system capable of determining affirmative behavior" (White, 1975, p. 20). We argued that "this holistic definition of attitude recognizes the individual's capacity to select and organize experience into predictable choices. Attitude change, then represents more than a random or ad hoc response but rather a new point of view in the emergent restructuring of experience. It further represents the individual's capability of growth and change influenced by his or her life context. Attitudes of students in interprofessional education are to be understood in part by their level of personal and professional development." (Casto, et.al., 1986, p. 202.)

In the previous study we also discussed attitude change in the context of group behavior as well as the current status of attitude change research done in relation to interprofessional groups. Very little evidence exists by which to evaluate or verify the current studies. The distinction McCorcle provides between interdisciplinary groups and other kinds of groups proved to be useful in identifying important features of interprofessional groups. First, the interdisciplinary task group is an open rather than a closed system owing its existence to some outside agent who places unpredictable requirements on the group. The group therefore will be expected to engage in various activities to respond to interactions within this larger environment. Second, production schedules and commitments to outside agents emphasize the time boundaries of the group. The behavior of the group will be influenced by an emphasis on task requirements. These two characteristics, openness of group boundaries and the needs of the group to attend to the task requirement, present a dilemma for the interprofessional group (Casto, et.al., 1986, pp. 202-203 and McCorcle, 1982). It is at once encouraged to develop its own life and at the same time adapt its life to the demands of its environment. Throughout this process attitudes are shaped and formed with respect to both professional practice and interprofessional collaboration.

Assumptions Of Interprofessional Education

Interprofessional education at the Ohio State University is founded on a series of considered and refined assumptions which provide both direction and content for the program. While the entire list of assumptions is too extensive to include in this study, it may be helpful to indicate the unifying concepts related to several of the assumptions. Throughout the assumptions there is an emphasis on the human wholeness of both professionals and clients. This emphasis demands that those who provide services avoid fragmentation. Professionals need to be open to the perspectives of others and willing to engage in cooperative efforts. Whether professionals are considering complex client problems or complex concepts and decisions, technological advances in society and the explosion and availability of knowledge require in many instances an interprofessional approach.

Ethical Issues Common To The Helping Professions At The Ohio State University

The interprofessional seminar, "Ethical Issues Common to the Helping Professions," has been offered to students at the Ohio State University for the past thirteen years. The enrollment currently consists of students and practicing professionals from the Ohio State University School of Allied

Medicine, the Colleges of Nursing, Medicine, Law, Education, Social Work and the Columbus Cluster of Theological Schools. Faculty from each academic unit provided lecture and discussion of content and led their respective professional group as well as an interprofessional group of ten to twelve students. Lectures in the course included an introduction to ethical thinking, professional ethics and codes of ethics, and a consideration of the difficult ethical issues involved in privacy and confidentiality, professional accountability (including report of error and malpractice), death and dying, the problems of adolescence, and the allocation of scarce resources. Case studies presented by faculty provided the basis for discussion in both the professional and interprofessional groups. Students completed reading and written assignments. Evaluation of students was based on participation in class and completion of the written requirements.

Method Of The Study

Once again a thirty-seven item paper and pencil questionnaire was use to gather demographic and attitudinal data from the students. Thirty-two semantic differential statements were constructed around five central themes:

1. Attitudes about the value of the seven human service professions represented by seminar participants;
2. Attitudes about the role of conflict in the interprofessional team process;
3. Attitudes about the structuring of interprofessional group organization;
4. Attitudes about the nature and distinctiveness of one's role as an interprofessional team member;
5. Attitudes about one's willingness to participate in the interprofessional group process.

A five-point scale of degree of agreement or disagreement was used. There were also two sentence-stem items designed to elicit information regarding professional and interprofessional goals and three items designed to elicit demographic information.

Seminar participants were asked to complete the questionnaire both at the first and the last meetings of the seminar. The same questionnaire served as the instrument for both pre- and post- assessment. Responses were then computer-analyzed according to professional group, and pre- and post-assessment.

Subjects

Seminar participants included degree students and professional practitioners. Of these participants the study's subjects were those persons who voluntarily completed either/or both the pre- or post-assessment instruments. Subjects were not paired according to group. Of 184 pre- and post- questionnaires distributed to participants, 86 were returned to yield a 46% response rate. Pre-and post-assessment data were handled as aggregate data with no attempt made to match individual responses.

Demographically, subjects identified themselves according to profession, age, and sex:

<u>Professions</u>	<u>Number Enrolled</u>	<u>Pre-Assessment</u>		<u>Post-Assessment</u>		<u>Aggregate</u>	
		<u>F*</u>	<u>%</u>	<u>F</u>	<u>%</u>	<u>F</u>	<u>%</u>
Allied Medicine	10	5	12.5	7	15.2	12	14.0
Education	17	7	17.5	9	19.6	16	18.6
Law	16	4	10.0	5	10.9	9	10.5
Medicine	11	3	7.5	5	10.9	8	9.3
Nursing	8	4	10.0	3	6.5	7	8.1
Social Work	17	11	27.5	11	23.9	22	25.5
Theology	13	6	15.0	6	13.0	12	14.0
Other/Unknown	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	92	40	100.0	46	100.0	86	100.0

*F (Frequency) denotes the number of subjects who represented each professional group

% (Percent) denotes the comparative proportion of subjects in relation to the subject-sample.

<u>Age</u>	<u>Pre-Assessment</u>		<u>Post-Assessment</u>		<u>Total</u>	
	<u>F</u>	<u>%</u>	<u>F</u>	<u>%</u>	<u>F</u>	<u>%</u>
21 - 25	14	35.0	16	34.8	30	34.9
26 - 30	12	30.0	15	32.6	27	31.4
31 - 35	4	10.0	5	10.9	9	10.4
36 - 40	3	7.5	3	6.6	6	7.0
41 - 45	1	2.5	2	4.4	3	3.5
46 - 50	2	5.0	3	6.5	5	5.8
51 - 55	3	7.5	1	2.2	4	4.6
56 - 60	0	0	0	0	0	0
61 - 65	<u>1</u>	<u>2.5</u>	<u>1</u>	<u>2.2</u>	<u>1</u>	<u>2.3</u>
	40	100.0	46	100.0	86	100.0

<u>Sex</u>	<u>Pre-Assessment</u>		<u>Post-Assessment</u>		<u>Total</u>	
	<u>F</u>	<u>%</u>	<u>F</u>	<u>%</u>	<u>F</u>	<u>%</u>
Male	13	32.5	19	41.3	32	37.2
Female	<u>27</u>	<u>67.5</u>	<u>27</u>	<u>58.7</u>	<u>54</u>	<u>62.8</u>
	40	100.0	46	100.0	86	100.0

Some responses were profession specific: student rights, content and method of teaching, cheating (education), and the unequal administration of justice (law). Several respondents saw professional attitudes about their clients as significant concerns, accepting the life style and values of clients and a lack of caring were cited as ethical problems. Society's view of the professions and involvement in ethical decision-making were both cited by several students as important ethical problems.

In response to the open-ended question, "The most important ethical issue facing my profession is...", "subjects were quite specific in their answers. It might have been assumed that this would result in differences between the professions. This was not the case. Most students identified confidentiality and accountability as the most important ethical issue facing their profession. Other popular choices were the right to live or the right to die, misuse of power, euthanasia, abortion, and the changing role of professional practice.

All responses to the two sentence-stem items and other comments written by the subjects were compiled and summarized. These summaries resulted in the following qualitative profiles.

Results And Discussion

Researchers used SPSSX to perform a multi-variate analysis of variance on the five combination variables.

1. VALU identified attitudes about the value of including representatives from each of seven professions as members of an interprofessional team.
2. CONF identified attitudes about the role of conflict in interprofessional team process.
3. ROAL identified attitudes about the egalitarian vs. hierarchical functioning of the interprofessional team.
4. ROLE identified attitudes about the nature and distinctiveness of one's professional role as a member of an interprofessional team.
5. PART identified attitudes about one's willingness to participate in the interprofessional team process.

In analyzing subjects' responses, researchers used SPSSX (Statistical Package for the Social Sciences, revised edition) to derive all pertinent descriptive statistics, t-scores, and Pearson correlations from the 32 semantic differential items in addition to five combination variables. These combination variables resulted from grouping 26 semantic differential items around the five central themes of the study, listed as follows:

Data Analysis of Results

The subject sample represented all participating professions, with social work comprising about one-fourth of those participating, Allied Medicine, Education and theology each represented by about one-eighth of the sample, and law, medicine and nursing represented by about one-tenth of the sample. The age of the subject sample was widely distributed about a mean of 31 years with a standard deviation of 9.8 years. In comparison with the class rosters, the sample corresponds with the seminar participants.

In response to the open-ended statement, "The most important ethical problem that faces an interprofessional team is...", subjects cited many of the same concerns as in the previous question. Heading the list was accountability for the decisions that the team made. Other problems cited were truth-telling, allocation of scarce resources, misuse of power, right to live, right to die, euthanasia, the rights of the individual and the rights of society, and the quality of life.

Some concerns related to team practice and the life of the team. These included failure to value and respect other professions, lack of communication, and cooperation versus territoriality. Other concerns were related directly to attitudes about clients, namely, the self-determination of clients, and including clients in the definition of their problems.

The post-assessment did not reveal any new concerns on the part of respondents, although responses tended to be more elaborate.

These questions reveal the respondent's high level of interest in and familiarity with both the ethical problems facing professionals and ethical issues that arise as a result of team practice. Such a level of responses suggests that students may enter a seminar on ethical issues common to the helping professions seeking answers or at least the opportunity to reflect on ethical problems that they have already identified. This suggests a relatively high level of sophistication among the students in the course with respect to experience in professional practice and on interprofessional teams. This is confirmed by the mean age of the group (31 years) which suggests some professional experience prior to taking the course. It may be that future studies should include the identification of the level of professional and interprofessional experience.

Descriptive Data

While significant differences between the two groups were few in number, the study identified some interesting information regarding the types of students who choose to study ethics from an interprofessional perspective. A student profile has been developed by researchers in relation to the five central themes of the study using the information compiled through the combination variables. While the profile reflects the data from only one class of students, it may serve as a guideline for identifying and professionals who are inclined toward interprofessional education and practice.

1. Value of other professions

Students in the sample expressed a strong appreciation for the value of the other professions. They consistently felt that they should be included on an interprofessional team. This conclusion applied nearly equally to each of the professions represented in the study. While there was a high degree of agreement among the subjects at the beginning of the study that all professions should be included on the interprofessional team, their responses to that set of questions on the post-assessment indicated an increased appreciation (level of significance .067) for the value of the different professions on an interprofessional team (figure 1).

Figure 1.

The combination variable VALUE identified attitudes about the value of including representatives from each of the professions on an interprofessional team. (The questions were inversely stated. The results, therefore, indicate an increased appreciation for including representatives of different professions on an interprofessional team.)

pre-assessment	████████████████████	1.69
post-assessment	████████████████████	1.50
	1 2 3 4 5	

(Significant at 0.067)

While this shift in attitudes does not carry a high enough level of significance to be considered reliable, it does indicate a trend that was confirmed in the previous study. It also identifies the students in the sample as persons who have a high level of respect for all of the professions and desire their participation on the interprofessional team.

2. Equality on the interprofessional team

Not only does the sample indicate openness to those from other professions as members of the interprofessional team, it also indicates that those completing the survey value the actual participation of all the professions. Students who take interprofessional courses seem to believe at the outset that persons from all the professions should participate in the interprofessional collaborative process on an equal basis (figure 2).

Figure 2.

The combination variable EQUAL identified attitudes about the egalitarian vs. hierarchical functioning of the interprofessional team.

pre-assessment	██	3.78
post-assessment	██	3.75
	1 2 3 4 5	

According to participants, those on the team share equal responsibility for the discussion of ethical problems. Given the more typical characterization of the hierarchical interaction of the professions on teams where one profession may be seen to dominate or have more authority than the others, such a definitive response (mean 4.06; std. dev. 0.94; std. err. 0.10) in this area is surprising. This conclusion was supported by the responses to two other questions: "Everyone should have an equal say in an interprofessional discussion of ethical issues." (Mean 3.94; std. dev. 0.89; std. err. 0.10); "It is important that the input of every profession on the

interprofessional team be included in the discussion of an ethical issue." (Mean 3.93; std. dev. 0.91; std. err. 0.10).

Equally interesting were the data regarding the leadership and expertise of interprofessional team members. Respondents felt that "A sympathetic hearing should be granted a team member whose expertise is not directly related to the ethical issue at hand." (Mean 3.64; std. dev. 0.95; std. err. 0.10). Similarly, respondents indicated that "When an interprofessional team is discussing an ethical issue the comments of the professional whose expertise is most directly related to the ethical issue should carry the most weight." (Mean 3.25; std. dev. 0.90; std. err. 0.10).

Results on questions related to leadership were similar. Respondents strongly indicated that interprofessional team members are not subordinate to team leaders (Mean 4.22; std. dev. 0.77; std. err. 0.08). Nor do some interprofessional team members carry more responsibility if the outcome of a decision is not satisfactory (Mean 3.33; std. dev. 1.05; std. err. 0.11).



Such results would seem to indicate that students in the sample advocated a position which conflicts with traditional assumptions about authority and expertise. Authority seems for these persons to reside in the team itself when it is discussing ethical issues and ethical decision-making. Leadership assignments do not carry any intrinsic authority, nor does expertise in the area of consideration. The students in the sample are strongly egalitarian in nature and believe that teams should function in that manner. Equality on the interprofessional team is an important issue for them. Their convictions about it were strongly held at the beginning of the course and did not shift significantly during the quarter. (All shifts on the above questions, while generally not carrying a high enough level of significance to be cited, were in fact in the direction of supporting these conclusions.)

3. Participation on the interprofessional team

Subjects in the sample felt strongly that they should and would participate in interprofessional team activities in the discussion of ethical issues. This conviction was strongly held and did not change during the quarter (figure 3).

Figure 3.

The combination variable PARTICIPATION identified attitudes about one's willingness to participate in the interprofessional team process.

pre-assessment		3.81
post-assessment		3.85
	1 2 3 4 5	

Respondents felt equally confident about their professional and personal ability to participate on an interprofessional team. They responded

positively to the statement "I feel comfortable representing my profession on an interprofessional team that addresses ethical issues." (Mean 3.93; std. dev. 0.84; std. err. 0.90). The direction of the shift in their responses in the pre-and post-assessments indicated an increased confidence in this area, although the shift did not have a high enough degree of probability to be judged significant (0.41). Similarly, respondents felt that members of their profession "can adequately discuss ethical issues on an interprofessional team." (Mean 3.90; std. dev. 0.83; std. err. 0.09).

Respondents anticipated that they would be "active" participants "in the interprofessional discussion of ethical issues." (Mean 4.00; std. dev. 0.72; std. err. 0.08). Once again, while the shift in their attitudes did not have a high enough degree of probability to be judged significant (0.37), it is suggestive of a tendency on the part of the students to develop an even greater commitment to the interprofessional consideration of ethical issues during the course.

4. Descriptive conclusions

Students who responded to this study seem to represent a group which is characterized initially by a high degree of commitment to interprofessional collaboration in the consideration of ethical issues. At the outset of the course they equally valued the contributions of each of the participating professions. They were equitable in their view of team relationships, believing that all team members share equally in responsibility for decisions and the right to voice opinions. Leadership does not carry with it special privilege and authority and no profession has a right to more authority than any other. Finally, they believed that they and their profession could participate as equal partners in the interprofessional collaborative process. They anticipated that they would be active participants on interprofessional teams as they entered professional practice.

It may be that such a set of conclusions can produce a profile of the students most likely to engage in interprofessional education experiences. Such students may also be those most likely to engage in interprofessional practice. The ability to identify these types of students would be valuable to the degree that interprofessional education and practice are valued by a profession. Such profiles might also serve as one basis for developing licensure requirements and standards.

Shifts In Attitudes

Attitude shifts were indicated in the study in several areas. Only those shifts with better than a 0.05 degree of probability (two-tailed) will be discussed in this section of the paper.

1. Value of Professions

Once again, student perceptions of some professions and their value to the interprofessional process changed significantly. Social work was valued more highly at the conclusion of the course as a participant on an interprofessional team that considered ethical issues (figure 4).

Figure 4.

The variable SOCIAL WORK VALUE identified attitudes about the value of having a social worker on an interprofessional team that addresses ethical issues. (The question was inversely stated. The results, therefore, indicate an increased appreciation for including representatives of social work on an interprofessional team.)

pre-assessment	██████					1.73
post-assessment	████					1.43
	1	2	3	4	5	

(significant at 0.041)

Responses to similar questions about the other professions indicate that the students in the course developed an attitude of acceptance for those professions, although the probability of the responses was not great enough to be considered significant.

Such a shift in the attitude about social workers indicates that students gained respect for the contribution of social work as a profession to the interprofessional discussion of ethical issues. This shift may be accounted for by increased familiarity and socialization. The course is designed to place a student in proximity and dialogue with students representing the other professions. One goal of the course is that such interaction will encourage familiarity and trust between members of different professions and in turn develop an appreciation for the contributions the other professions can make to the discussion of ethical issues. The results would suggest that this goal was met, at least with respect to the social work students and their anticipated profession. It is hoped that barriers that may have been overcome during the socialization provided through the course will not be reconstructed as the students move into professional practice.

2. Conflict

Once again, one of the variables measuring attitudes about the role of conflict on interprofessional teams showed a significant shift on the post assessment as compared to the pre-assessment. At the beginning of the course respondents disagreed with the statement, "For the sake of group cohesiveness, conflict should be minimized during the discussion of an ethical issue by an interprofessional team." At the conclusion of the course, they disagreed with this statement even more conclusively (figure 5).

Figure 5.

The variable MINIMIZE CONFLICT identified attitudes about the role of conflict on an interprofessional team in its discussion of ethical issues. (The question was inversely stated. The results, therefore, indicate increased appreciation for the role of conflict in the work of an interprofessional team considering ethical issues.)

pre-assessment	██████████	2.50
post-assessment	██████████	2.11
	1 2 3 4 5	

(significant at 0.049)

This data suggests that students believe that acknowledging and using conflict strengthens the interprofessional process and leads to better results and decisions. In our previous study, we observed: "Some group process theory suggests that conflict is a necessary condition of building cohesion in relation to group goals. Conflict may also be a necessary component in processing complex issues." (Casto, et.al., 1986, p. 212.) Certainly this theory would apply to the highly complex technological issues addressed in discussions of ethical problems confronting professionals in their practice. Resolution of those issues becomes more difficult if participants fail to acknowledge their conflicting interests and perspectives. Such conflicts are inevitable both because of differences in the process of professional socialization among the professions and because of the different expectations which clients and society have of the various professions.

This data is also interesting in relation to that cited in our previous study because it relates to teams engaged in the discussion of ethical issues rather than those designing client care plans. The latter groups are characterized by a high degree of task orientation and more specific closure. Treatments are developed, assignments are made, and interaction is more likely closely related to areas of technical expertise and specialization. On the other hand, in teams discussing ethical issues, members are as likely to draw on personal and societal opinion as they are to develop conclusions on the basis of expertise. Interaction is likely to be more diffuse and less task oriented. Conclusions are likely to be less definitive and more difficult to implement.

Therefore, the data would suggest that while significant differences exist between the nature of interprofessional care teams and interprofessional teams gathered to consider ethical issues, both teams are perceived as benefiting from the constructive use of conflict. This correspondence of results may be due to the fact that both types of groups are concerned with decisions that have a bearing on client care, although the decisions in issue oriented groups may be implemented over a longer period of time. In both types of groups, therefore, there may be a concern with the importance of identifying and managing conflicts in the interest of client care. Ethical

The scope of this study is limited to one interprofessional education experience and the students who elected to respond to the questionnaire. It indicates, as in our previous study, that student attitudes can be changed. This is good news for those of us who teach in the hope that our teaching

Conclusions

These results point to the need for more definitive and explicit studies of the nature of leadership on interprofessional teams and the relationship between team members and team leaders. Such data should address the ambiguities of the current study in which only one question raised these issues. Questions which remain center on the nature and function of leadership in the interprofessional team, further definition of the relationship between team members and team leaders, and the possibility of "leaderless" teams.

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	1	2	3	4	5
pre-assessment	1.95				
post-assessment					1.63

(significant at 0.055)

The variable TEAM SUBORDINATE identified attitudes about the relationship between team members and team leaders. (The question was inversely stated. The results, therefore, indicate an increased sense of equality between team members and leaders.)

Figure 6.

Responses to one statement about the relationship of team members to authority to designated leaders. Additionally, their conviction about this conclusion strengthened during the course (figure 6).

3. Leadership

decisions would seem to be considered as important as decisions about client care by those responding to the two studies.

shapes attitudes that foster better client care. On the other hand, few shifts in attitudes were large enough to develop a level of significance that could be cited with any confidence. The process of changing attitudes is tediously slow. We may be able to impart knowledge and measure what our students have learned. This may be the focus of our efforts as teachers. However, attitude development has at least as much to do with effective professional practice and it is a much less precise art than the communication of knowledge. Interprofessional collaboration in professional practice depends in large measure on the effectiveness of educational efforts to convince students and practitioners of its value. Attitudes and values will need to be changed if interprofessional practice is to become a reality in any except the most limited circumstances. A more refined approach to both attitude development in interprofessional education settings and attitude measurement among professionals and students is necessary in order to enhance the work begun in these preliminary studies.

This study also suggests that students who are inclined toward interprofessional study have certain convictions and inclinations in common. They tend to be convinced of the value of collaboration even before they become members of an interprofessional team. They tend to be confident about both their ability to participate in interprofessional discussions and the quality of the contribution that their profession can make to those discussions. They believe that members of an interprofessional team should participate on an equal basis. No profession or individual has a *de facto* claim to authority.

The identification of these and other characteristics suggest that those entering professional practice possess certain attitudes about their careers, clients and professions that will influence their practice. The inclination to engage in professional practice from an interprofessional perspective may be instinctive for some students, but in most cases it will need to be developed. Most students will need to overcome the prejudices and conclusions that they learned through socialization into their profession. They will need to develop new skills and a new set of understandings that incorporate into their professional practice desirability of interprofessional collaboration.

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