Delphi: a program planning technique

John G. Gross

To maintain the position of leadership it now holds, Extension must plan and implement educational programs that meet the needs of people. This is a challenge for the future. It must be approached objectively with appropriate strategies.

We must remember, as McMahon has said, "In the last analysis, it is always the client who makes the judgment about his own need and what will satisfy that need."[1] The problem is to find a way to elicit from the clients or potential clients expressions of need and perhaps ways of meeting those needs. The involvement of the client or potential client in program planning is one of the philosophical underpinnings of Cooperative Extension program planning.

One way to do this is a modification of the Delphi Technique used for long-range program planning.

Considering the present need to conserve time and energy, the long-range planning techniques described here can be a way of learning from a group of knowledgeable respondents the problems, needs, and opportunities of concern. . . .

Delphi Technique

The Delphi Technique was originally used to help make predictions about the future. It has been used extensively in forecasting technological developments. Wouldn't this be appropriate to use in planning educational programs for the future?

The Delphi procedure consists of several "rounds:"[2]

1. Participants are asked to list their opinion on a specific topic, such as recommended activities or predictions about the future.

John G. Gross: Professor and Chairman, Department of Extension Education, University of Missouri—Columbia. Accepted for publication: October, 1980.

2. Participants are then asked to evaluate the list of opinions against some criteria, such as importance, chance of success.
3. Each participant receives the list and a summary of responses to the items, and, if in the minority, is asked to revise his/her opinion or indicate his/her reason for remaining in the minority.
4. Each participant again receives the list, an updated summary of responses, a summary of minority opinion, and a final chance to revise his/her opinion.

Kaysinger Procedure

A modification of the Delphi Technique was used as a basis for the long-range program planning effort in the Kaysinger Basin Extension program planning area in Missouri.

The Kaysinger program planning area consists of six counties in west central Missouri. Here's a brief description of the steps taken in this long-range planning effort:

- *Step One:* The procedure was explained to each of the six Extension Councils in the area. Their approval and cooperation were obtained.
- *Step Two:* Respondent groups were identified. Each Extension Council member was asked to nominate five people to participate. This group, including the council members, would comprise one respondent group. A second respondent group would be the professional Extension staff. A third respondent group was people outside the area who might influence programs and events in the area (state Extension specialists, etc.). Local governmental officials constituted a fourth response group. A letter and reply card were sent to each proposed respondent inviting his/her participation and cooperation in this effort.
- *Step Three:* The respondents were asked to: "List five statements describing 'outside' forces relating to opportunities, problems, or situations that you believe will affect the quality of life and economy in the Kaysinger area within the next 10 years."
- *Step Four:* Information from the respondents was typec on cards and sorted into categories. There were 1,800 cards sorted into 16 categories (Table 1). This information was summarized and further refined until a manageable total of 59 statements was prepared. These 59 statements were selected by the technical committee operating the planning effort to contain the major concerns expressed by the respondents.

Table 1. Categories in Kaysinger study.

1. Communication and computers
2. Economics, business, and industry
3. Education
4. Environment and ecology
5. Government, politics, and world order
6. Habitats, cities
7. Health
8. Lifestyles and human values
9. Planning-forecasting
10. Population
11. Food
12. Resources and energy
13. Science and technology
14. Society and growth
15. Space
16. Transportation

- *Step Five:* Each of the respondents was mailed a copy of the 59 statements and was asked to rate, on a scale of 1 to 7, his/her agreement or disagreement with each item. Each was also asked to rate on a similar scale the degree of impact this statement would have on the area (Table 2).
- *Step Six:* The data from the previous step were processed and the mean response obtained for each item. In addition, mean responses were calculated for each respondent group for each item.

Table 2. Sample items from the second round of Kaysinger study.

A		B
Agree—Disagree Circle the number that represents your opinion about these statements. (Strongly disagree—1 No opinion—4 Strongly agree—7)		Circle the number that represents your opinion of the degree of impact this statement could have on the area. (No impact—1 Medium impact—4 Heavy impact—7)
1 2 3 4 5 6 7	9. Inflation will continue to strain family resources for material standards of living.	1 2 3 4 5 6 7
1 2 3 4 5 6 7	12. Local markets will become more important to farmers.	1 2 3 4 5 6 7
1 2 3 4 5 6 7	17. The role of parents and volunteer older citizens will become more important in educating children through group activities such as 4-H.	1 2 3 4 5 6 7
1 2 3 4 5 6 7	54. Stability of the family unit as a social and/or economic unit will have a serious impact on the area.	1 2 3 4 5 6 7

- *Step Seven:* The respondents were mailed the 59 statements with the mean responses of impact and agreement for the entire respondent group marked on it. Space was provided for the respondents to indicate their disagreement with the mean responses.

  To save mailings, the respondents were asked to rate on this same form the desirability of the statement on a scale of 1 to 7. They were also asked to rate the degree of local control over this opportunity, problem, or situation referred to in the statement on a similar scale (Table 3).
- *Step Eight:* Results of the previous mailing on desirability and degree of local control were mailed to the respondents.

The responses from the above procedure provide a series of statements that reflect the best judgment of a select group of people on the problems, opportunities, or situations that

Table 3. Sample items from the third round of Kaysinger study.

Results of Round 2			Following each statement, circle the number that represents your opinion:	
			1—Very undesirable	1—No local control
			7—Very desirable	7—Complete local control
Agree—disagree	Impact		Desirability	Local control
1 2 3 4 5 ⑥ 7	1 2 3 4 5 ⑥ 7	9. Inflation will continue to strain family resources for material standards of living.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Comment: _____				
1 2 3 4 ⑤ 6 7	1 2 3 4 ⑤ 6 7	12. Local markets will become more important to farmers.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Comment: _____				
1 2 3 4 5 ⑥ 7	1 2 3 4 ⑤ 6 7	17. The role of parents and volunteer older citizens will become more important in educating children through group activities such as 4-H.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Comment: _____				
1 2 3 4 5 ⑥ 7	1 2 3 4 ⑤ 6 7	54. Stability of the family unit as a social and/or economic unit will have a serious impact on the area.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Comment: _____				

will affect life in the Kaysinger area over the next 10 years. In addition, the ratings of this select group on the impact, agreement or disagreement, importance, and degree of local control are available. This provides the essential information that a program planning study committee will use to design an educational program to meet the needs of the people for the next 10 years.

The payoff of this procedure is in the actual use of the information in designing programs for the area. The professional staff and their study committees have at hand information that's useful to them in developing appropriate and effective programs that will meet the needs of the people.

Survey

This long-range planning exercise has the following advantages:

Advantages

1. A wide variety of knowledgeable people can have input into the program planning process.
2. This procedure allows people to participate without having to travel great distances to meetings.
3. The concerns of different respondent groups may be considered separately, if desired.
4. This practice allows the Extension Council to more meaningfully participate in fulfilling their program responsibilities.
5. Ideas that might not occur to traditional planning committees may be injected into the system for consideration.
6. This system, when precisely followed, can't be controlled by any clique of respondents or even by Extension staff.
7. This exercise can be a highly motivating environment for respondents. The feedback of responses can be novel and interesting to all.
8. Anonymity and group responses allow a sharing of responsibility that's refreshing and releases the respondents from inhibition. The results of this kind of exercise are subject to greater acceptance on the part of the group than is consensus arrived at by more direct means of interaction.

Disadvantages

There are some disadvantages of this system:

1. There's a dropout of participants from the various rounds of mailed responses. Not all respondents mail in their replies.

---

2. The process involves considerable detail work that often becomes tedious.
3. The procedure won't directly indicate things to be done or included in the program, but does provide useful information for study committees to use in making their program decisions.

Summary

Considering the present need to conserve time and energy, the long-range planning techniques described here can be a way of learning from a group of knowledgeable respondents the problems, needs, and opportunities of concern. Ratings on the impact, desirability, importance, and degree of local control will provide further information to a study committee. The committee, with this information, will be better able to design programs and recommend program priorities to meet the needs of people in the area.

Footnotes

1. Ernest E. McMahon, "Needs—of People and Their Communities—and the Adult Educator" (Washington, D.C.: Adult Education Association, 1970), p. 11.
2. Paul DeLargy, "Identification of Community Education Goals by Use of the Delphi Technique" (Ed.D. dissertation, University of Georgia—Athens, 1973).