

# Nominal Group Process—an Evaluative Tool for Clinical Instruction

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**Effectiveness of educational programs should be continually evaluated. Methods normally used to evaluate program effectiveness are many times biased and ineffective, thus giving erroneous results. The Nominal Group Process (NGP) has been proven to be an effective evaluative tool in identifying qualitative problems that may be perceived to reduce effectiveness of clinical instruction. The NGP is explained and described. Results of this process used in the Hillsborough Community College Nuclear Medicine Technology Program are reported and its use as a routine evaluative tool for clinical instruction is recommended.**

It is generally accepted that educational programs should continually be evaluated and improved in order to provide a quality education, representative of the most current concepts and techniques available. This is especially applicable to educational programs in nuclear medicine technology since nuclear medicine continues to change so rapidly. Evaluations come in many different forms, both subjective and objective, and in varying degrees of sophistication. While it is gratifying to identify the positive aspects of a program, it does not help in making the program better and stronger. The only way in which an evaluation can be meaningful is to identify those problems that may inhibit the effectiveness of a program, thus allowing the development of solutions to those problems. Many times the methods used in identifying problems are ineffective in themselves by not providing accurate, unbiased results.

Clinical instruction in nuclear medicine technology educational programs is usually accomplished through an on-the-job training approach; the student is assigned to a practitioner/teacher for the purpose of observation and learning. This approach has proven to be effective in learning application of theory. In a situation such as this, almost everyone is involved. The student, staff technologists, physician, etc., all play integral roles in the education process. Consequently, it is difficult to obtain a meaningful and objective evaluation of such a program. In many instances just the mention of an evaluation conjures up a negative image in the minds of

those being evaluated and is perceived to be a threatening experience.

Many times, even when those involved in the evaluation process have a positive attitude and do not perceive it to be a threatening situation, the problem of identifying negative factors that may affect the program continues to exist. Most people find it easier to express positive rather than negative comments, especially when the expression is verbal. Likewise, when individuals evaluate a program in which they are personally involved, there is a tendency to be less than candid.

The investigative method used in evaluations and the evaluation instrument itself are critical in achieving meaningful results. Questionnaires are notoriously bad in that there is usually no opportunity to explain or elaborate one's ideas. Personal interviews are not very effective, especially if the person holding the interview has any supervisory authority over the person being interviewed. Even peer interviews are not effective due to peer pressures and peer approval or both. Group discussions invariably result in the more vocal members of the group dominating the discussion; the less assertive individuals are often overlooked.

The Nominal Group Process (NGP) has proven to be most effective in overcoming these and other negative characteristics associated with an evaluation process. The NGP permits the identification of critical problems by means of a group process which is unthreatening and depersonalized. Everyone contributes equally. It permits open discussion and clarification of items from an objective and subjective point of view. The problems that are listed are ranked by the group through a voting process. The NGP can be implemented at very low cost in that the only cost involved is the price of a flip chart, and this is not mandatory. A large sampling population is not required for good statistics, and the entire procedure can be accomplished in a relatively short period of time.

The NGP is used to identify qualitative problems. In

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doing so, reliable information can be gained which is valid and relevant to evaluating the effectiveness of any educational program. The process can be used in almost any situation, from community health planning to developing a career ladder, and has proven to be effective in evaluating the overall effectiveness of clinical training in the Nuclear Medicine Technology Program at Hillsborough Community College.

### Description

Van de Ven and Delbecq described the NGP as a research instrument for exploratory health studies (1). The description that follows is an adaptation of the basic concepts described in their article and relates specifically to evaluation of clinical instruction in nuclear medicine technology.

The individual responsible for carrying out the NGP, the planner, must first identify the area of concern to which the nominal group will address itself. In our situation this area is the identification of problems that may inhibit the overall effectiveness of the clinical instruction program. Next, the nominal group must be identified. It may include technologists, teachers, physicians, students, and anyone else who is directly associated with the training program. After this group has been identified and brought together, the NGP is explained. It must be carefully pointed out that the NGP is problem centered, not solution centered. If the group involves more than eight people, it is divided into smaller groups of five to eight individuals, with each of these smaller groups going into separate locations. Each separate group must have someone in charge who is familiar with the NGP. This individual (the group leader) should make sure that the group members fully understand what is expected of them. The members are provided with pen and paper and instructed to spend the next 15 min listing as many problems as they feel are inhibiting the overall effectiveness of the clinical instruction program. During this time the group leader is to strictly enforce silence and allow each member to work independently.

At the end of this 15-min period, the group leader takes a pen and a flip chart and asks each member to read aloud one of the problems. This is to be done in a round-robin fashion until all members have read all problems listed. There is to be no discussion or remarks made during this time. The group leader then leads the participants in a 30-min discussion of the items listed for the purpose of clarification and elaboration. During this period the problems listed may be grouped into categories, but no items may be eliminated. After this discussion there is a 15-min break.

Following the break each small group reassembles for the purpose of ranking the most critical problems. Each member is asked to choose the ten most critical problems listed on the flip chart. Next, each member is to assign a value from 1 to 10 to each item, with 10 being awarded to the most important item. During this period,

when the group is ranking their items, the group leader prepares a tally sheet. Each group member then records this weighted value beside each item number on the tally sheet. The final value for each item may be assigned at this time or further discussion may be permitted for the purpose of reclarification, elaboration, etc. After this discussion the group is permitted once again to rerank their items. In any event, a final tally sheet is derived which lists the ten most critical problems, each having a priority rating from the most to the least critical.

If more than one group has been involved, all groups are brought together and individual group results are reported. A final discussion period may be permitted at this point if it is felt to be needed. The group leader should then explain that the results of the NGP will be used to formulate and implement affirmative action to correct those problems that have been identified. The meeting is then adjourned.

Van de Ven and Delbecq have aptly described the Nominal Group Process as accomplishing a number of objectives: "1.) It allows the target group to identify, rank, and rate critical problem dimensions; 2.) It provides a means to aggregate individual judgements; 3.) It allows for multiple individual inputs at a single time without the disfunctional dynamics of many public hearings such as domination by militant leaders, unbalanced participation, etc." (1).

### Discussion

The NGP, as described in this report, has been used to evaluate the effectiveness of clinical instruction as perceived by the clinical instructors in the Hillsborough Community College Nuclear Medicine Technology Program. Five clinical faculty members, who are also technical directors or supervisors in the five affiliated nuclear medicine departments, constituted the nominal group. The Program Coordinator was the group leader. The entire NGP required 2 h, primarily because the discussion periods were used to full advantage. There was complete cooperation by everyone and each person had equal and meaningful input. A number of items were listed during the first period. After the 30-min discussion period these items had been clarified and grouped into three categories. Many of the items were duplications which indicated that the same problems were common to more than one clinical facility. After each of the five participants had chosen ten most critical items and had ranked them according to priority, it was found that only a few items had been chosen out of the total number listed. Once again this was good indication that each clinical facility experienced essentially the same problems. While the emphasis of the NGP is on the ten most critical problems, a list was made of all problems considered to be of significance. While some problems listed had been obvious prior to the NGP (such as a need for more conference space in the department), some had not been so obvious. Furthermore, most of the problems

listed were amenable to solutions with a nominal amount of effort and resources.

After the NGP was completed the group was asked to evaluate the NGP itself. Everyone was impressed with the efficiency of the entire procedure. They also felt that they had complete freedom in expressing their views and had not perceived any threatening or embarrassing moments in listing weaknesses or problems in their own facilities.

Due to the success experienced by the Hillsborough Community College Nuclear Medicine Technology

Program, the NGP is recommended as an effective evaluative tool for clinical instruction in nuclear medicine technology programs. Furthermore, the perceptive reader may see an immediate application of the NGP to many other investigative questions with which he or she may be involved.

#### Reference

1. Van de Ven AH, Delbecq AL: The nominal group as a research instrument for exploratory health studies. *Am J Public Health*: 62:337-342, 1972