Design, pretest, administer and analyze a brief questionnaire on a topic of your own choosing.

Ari Najarian – 930686
ANTH-3913
March 22, 2004
Dr. Angela Robinson

My previous studies have been directed toward answering the question: "How can the poor performance of students in the New Brunswick school system be rationalized?" To this end, I founded a voluntary organization to work within a junior high school, providing extra help and guidance to students after classes. I trained approximately thirty tutors according to the model outlined in my observation / participant observation report, who have since been actively involved in the programme for a seven-week period. During this first investigation, I treated learning problems as phenomena that could be studied independently (i.e. abstracted from a host of other factors that were equally immediate). I conducted my life history with a similar thrust, interpreting my respondent's comments as they bore relevance to the aforementioned question. Albeit both these studies taught me a great deal about my field, they have ignored an entire dimension of my research problem: deconstructing the question itself.

Whereas my former research has taken the above question at face value, and worked toward providing a response to it, the following investigation attempts no such thing. Rather, the focus in this case has been to come to a fuller understanding of my ethnographic question itself. Phrased as it is, it is quite loaded; I purport to unpack it through my findings, particularly in the following three areas: 1) in what areas performance is suffering, 2) what kind of students generally have learning problems, and 3) what sort of difficulties / challenges teachers face. I will begin by introducing my research design and methodology, providing a summary of my findings, and interpreting them in a manner explicative of my research question. By way of conclusion, I will consider what remains to be studied based on the analysis of my findings, and make some general statements about the dynamics of panel studies.

In planning my research design, there were only two key decisions that I had to make at the outset: how to best achieve scope and breadth of data (including what

to ask my respondents in the questionnaire), and how to analyze the data most efficiently; I will address these in turn. Firstly, with a group of thirty respondents, breadth is fairly guaranteed: it is likely that all the major themes I encountered would be touched upon in the questionnaires filled in one week alone. So it would seem that a study of thirty questionnaires focused on one week's experience would suffice; however, this becomes immediately problematic. Each respondent has a different personality, and this manifests itself in the way they respond to qualitative questions. With only one questionnaire filled out by each tutor, I would be unable to draw out any patterns that could help me qualify each individual response, which could potentially skew my analysis. To avoid this problem, I selected a panel study model, in which the group is repeatedly studied over a period of time, with the same questions being asked after each interval. This allows for the information in each questionnaire to be contextualized, and the findings normalized[1] (rounded out) both individually and collectively. Having decided on a panel model, the other advantageous features of such a study could not be ignored: with a study conducted at intervals over time, there are immense *statistical* benefits as well. This led me to include both qualitative and quantitative questions in my questionnaire, further maximizing scope and breadth of information.

To take full advantage of the panel study model, it was necessary to include the respondents' names in the questionnaire; how these were protected will be described later. In addition to this, the quantitative data I asked for were the student's age and gender, the subject and unit being studied, and the date. Below these (initially), I asked respondents to summarize their session, describe any difficulties they encountered, discuss their solutions to these problems, and provide any additional information they deemed necessary. I administered this same questionnaire for a six-week period, amassing 86 responses, before there was an opportunity to

[1] That is, evaluating each subjective group of responses by a common standard.

examine the questions themselves with my peers. In response to some concerns about directness, I then modified the qualitative questions' wording, and limited the type of comments my respondents could make by better abstracting the questions to reduce their individual directness. This new questionnaire was then administered for 1.5 weeks.[2]

As for the analysis of this data, the sheer volume of the information was itself a problem that had to be overcome. It would have been nearly impossible to cross-analyze the data manually, especially looking for the patterns I deemed pertinent (mentioned below). This left me with the computer as an alternative, and a choice to make between spreadsheet and database. At this point, I feel a short digression is necessary to address an important problem in statistical analysis, where data manipulation figures prominently. In this problem, there is a distinction between one-dimensional and multi-dimensional analysis, and the spheres to which each method is better suited. Firstly, 'one-dimensional' refers to a situation in which variables are studied in total isolation from each other. The researcher will generally look at each column of their data individually, as if they are entirely unrelated – say, a list of general locations where violent crimes are committed, and a list of typical victims. With one-dimensional analysis, it is impossible to see any relationship, extant or not, between these two columns, where a crucial link may in fact exist. Though the researcher may be able to compile a list of places to avoid, and construct a profile of those at risk, he cannot link a particular profile to a particular location. Perhaps ethnic minorities are only at risk in one region of a city, but are never attacked in another highly volatile zone. The problem here is obvious, especially to those planning policy. To see this link, a two-dimensional analysis must be conducted, i.e. one that looks at the two columns as related fields. In my case, it

[2] See attached questionnaires to compare the questions asked on each.

was necessary to use four or even five dimensions to highlight certain patterns, but the gains in normalizing my data were immense in doing so.

This applies to spreadsheets and databases in the following way: in selecting a spreadsheet to keep track of data, the researcher is limiting himself to only one-dimensional analysis, or at best three-dimensional (if especially adept). Though visual representations of trends are much easier in spreadsheets, the tradeoff is in accuracy. In fact, I imagine that what most researchers do is normalize their data first, and condense multiple variables into a single column of data, which they can in turn graph by using a spreadsheet (I have foregone this last step myself, as visual representations are unnecessary in this study). But to normalize data, the database approach is more powerful. For this reason, I chose Microsoft Access as my application for data-entry and analysis. I hope to show, in passing, the benefits of a database in the initial study of trends.

Having chosen Access, the structural design was fairly straightforward. The first thing that had to be done was to code the respondents' names, which I did by associating each name with a unique I.D. in a separate table.[3] These numbers were then used to keep track of records. All the information from the questionnaires was entered into a table depending on whether it was from the first or second draft (old-questions and new-questions, respectively). Each separate paper was stored as one record, with data fields for all the information therein, and a primary key to protect against insertion anomalies.

Once the information was entered, the challenge was to design reports and queries that would help me study the patterns I wanted to look at. A word about these first: recall the question stated above, and the three areas of focus that would broaden my understanding of it. By areas of poor performance, I meant to find particular subjects in particular grades where academic performance is lacking. What

was needed here was a query of both tables that displayed the statistical / empirical portion of each record (see 'students' under queries). I arranged these chronologically, but did not look at the patterns in attendance and help sought (this would have been a flow analysis, versus the stock, or cumulative analysis I chose). The data from these queries were then tallied manually, plotting grade and gender against subject.

Adding a degree of complexity (in terms of data analysis), what is meant by the *kinds* of students that experience learning problems is an evaluation of age, gender and (more removed from this study) factors such as socio-economic class, personality, personal interests, parents' occupations, extra-curricular involvement etc.[4] In this case, it was necessary to consider the 'students' query as well as the various respondents' subjective perceptions of the students they worked with. To evaluate and objectify the latter, I designed a report (___ questions: member chronological) that would list each respondent's various questionnaires (sorted by date, for a different enquiry); these could then be cross-examined and normalized. The relevant patterns in this case are: age / gender / subject frequency, total weekly questionnaires, individual tutors' questionnaires chronologically, and total perceived problem comments.

Finally, the most complex area of study deals with the difficulties my respondents faced when working with the students. Here, perception and qualitative responses are critical, and objectivity can only be achieved through extensive normalization. Another report had to be designed, sorting the questionnaires of all tutors grouped by week. Used with the previous report, I plotted member against week (two dimensions), and listed subject, age and gender for each cell (three more

---

[3] In the enclosed database, this table has been removed, permanently coding the respondent for third party perusal.

[4] Some of these factors are beyond the scope of my questionnaires; a few could be vaguely determined by deconstructing responses, others through my participant

dimensions, total five). These five fields, condensed such, can be treated as a single datum which can then further be interpreted: I was able to draw out patterns in thoroughness of replies, disproportionate work in a particular subject / age group by individual tutors, and frequency of instances where the subject taught was outside each respondent's specified comfort zone (data gathered separately). Such are the benefits of multi-dimensional analysis: these patterns would have been virtually invisible through a spreadsheet. Finally, one separate tally recording the frequency of each tutor's complaints further supplemented the normalizing process. With all these qualifications and measures in place, the analysis of my findings would be as accurate as possible; I now turn to examine these.

The first area I examined was the most straightforward: the vast majority of students seeking help were doing so in grade 8, particularly language arts, and particularly male. On the whole, there were 96 students in grade 8 over the course of seven weeks; 23 of these were female, the other 73 male; out of this group, about 10 students total came to the sessions for instruction in subjects outside language arts. Other concentrations appeared in grade 7 (especially) and grade 8 Math. On the whole, 98 males appeared at the sessions, compared to 43 females (total 141). In a sense, the disproportionate concentration in language arts was artificial, as this was the preferred and endorsed use of the sessions by the school administration; however, this merely serves to give a broader cross-section of this group.[5] The fact that a three-fourths majority - in an exhaustive roll of deficient students - in language arts are male, is a telling statistic.

There is a relative lacuna in the analysis with respect to the second area of study; the reason for this is that many of the factors needed to construct a profile of the typical deficient student stand outside the boundaries in which my respondents and I

---

observation, but external facts such as family occupation, wealth, etc. require further investigation and more resources.

[5] To ensure accuracy, I will restrict my investigation to language arts students.

were active. What I have been able to observe, through firsthand experience and the questionnaires, is nonetheless fairly substantial. There are frequent complaints about students getting distracted by their friends, who are in the same situation for the same reasons. Even with a dour view of my respondents' ability to keep the students' focus, these cannot be ignored. Excepting a few rare cases in which students are studying English as a second language, or introverted by nature, the rule of the day seems to be very social indeed. Poor performance in grade 8 language arts, then, is not an isolated, individual phenomenon, but something bound to the culture of the classroom. Furthermore, the 'distractibility' of the students being so high, one might speculate that the students themselves attach a very low value to language arts, which explains why so many outside factors can sway their attention with such ease. It is important to note that this distractibility may also be a reflection of the values taught in the home, or through friends or by other means external to this study; these factors merit further investigation at a later time.

Regarding the final point (the difficulties teachers face) the method of analysis is the most complex: the only pertinent data in this case is qualitative, and can only be treated empirically in its volume. As mentioned above, considerable measures were taken to normalize the responses of each tutor. If you will, liken this process to that of weighted averages: each respondent's credibility is evaluated by a set of qualifying criteria, and their comments are treated with this degree of significance. It would be unfair to assume an equal level of competence among tutors, for example, and so this criterion must be kept in mind when considering each tutor's responses. Using the five-dimensional analysis and the tally of complaints described above, I was able to measure all the respondents by the same standard: the analysis considered such idiosyncratic variables as the respondent's brevity / concision (determined by looking at each member's responses as a corpus), habituation (as evidenced by a general decline in thoroughness of responses), disproportionate

subject distribution (one invariably grows impatient when stuck teaching the same subject to the same age group and meeting the same results), and unfamiliarity with subject matter. If there was cause to question a respondent's effectiveness, I adopted a policy of "guilty until proven innocent", weighting the responses less in my analysis; factors informing my decision in this case were repeated complaints, often combined with vague language and difficult circumstances (i.e. group size and manageability, students' moods, etc.).

In the end, what appeared to be overwhelming evidence that a short attention span was the primary learning block was diminished greatly through cross-analysis. Having evaluated respondents in their own contexts, it became evident that in most cases the student and tutor were meeting halfway on the attention problem. This became strikingly clear during the last two weeks, where the same group of deficient students were introduced to an ongoing enrichment program. I had initially hypothesized that the increase in complaints had to do with a general impatience / restlessness on the part of the students upon returning from March Break. However, once the children were able to define the terms of their projects themselves, tutors who had previously been adamant about their charges' lack of engagement recorded no such sentiment among the students. This leads to two possible conclusions: either the exercises the school administration had assigned to them lacked a creative element (which is partially true), or the tutors were not making the effort to keep the students engaged. Determining the proper conclusion is, at any rate, irrelevant to a deeper understanding of the question. What matters is that distractibility has been placed in perspective, and comes up only slightly more often than shyness and non-abstraction (the tendency to avoid breaking a large problem into smaller, more manageable units), which both made consistent showings in other subjects as well as language arts.

I mentioned the administration of two separate drafts of the questionnaire above. How this figured in my analysis, having a comparably smaller sample, was by corroborating the evidence of trends under the old questionnaire. I did a complete study of the patterns dealt with above before turning to the comments and quantitative data I received over the last 1.5 weeks. I then performed the same statistical study on the smaller sample, and to my surprise, the results matched the older data to a margin of 12%. If I ignored the questionnaires filled out by tutors working under the enrichment program, the ratio of complaints to total questionnaires matched with a margin of 20% (1 out of 5 more complaints). My findings under the new questionnaire are thus statistically consistent. Moreover, as the sample size grows, the future comments I receive will be much better abstracted and easier to deconstruct because of their narrow scope.

It has become apparent that what I meant by: "How can the poor performance of students in the New Brunswick school system be rationalized?" less-generally concerned deficient males in the upper levels of junior high school, mainly in language arts and math, who most likely placed low value on these subjects due to a host of acculturating agents. It would be interesting to know what role agents outside school, such as those mentioned under the second area of study, played in the configuration of these values, and whether this pattern is localized in one or two schools of the district or spread evenly throughout a greater region (e.g. the province or even the Maritimes in general). Having painted a background for my research problem, certain directions of study have emerged that would fill out the picture much more fully.

In constructing a profile of deficient students, it would be helpful to look at the immediate community surrounding the school, as well as a cross-section of the economic and social status of the majority of households to which students belong. It would also help to explore the nature of these students' involvement in the school's

extra-curricular programs and their academic scores. In working around learning blocks, some more passive observation would be extremely useful. It would also help to conduct a few interviews with key faculty members in these subject areas, and contrast the teaching methods that they employ with those used by my tutors. Having obtained all this information, it would be possible to carry out the informed research needed to adequately answer my research problem. This answer in turn could prompt a change in teaching approaches and school policy, possibly placing greater emphasis on local factors when designing an integrated middle-school program. It is difficult to forecast the results of such an investigation with any certainty at this point in my study.

I hope to have shown the potential of the panel study approach in the previous pages. They successfully provide context for qualitative responses and scope for quantitative information; they open up an entire dimension of trends that evolve over time, rather than merely out of static relationships. This aspect of my research design proved an invaluable benefit, as did the second key decision to use a database. Although this study was rehearsed and limited in many respects, the skills that I gained, both theoretical and practical, will prove infinitely useful when doing formal research in the field. In the practical sense, I've learned how to design and administer a non-directive questionnaire that maximizes scope and breadth, how to structure a database for easy query and report generation, and how to interpret a vast number of qualitative results. In theory, I articulated the distinction between single and multi-dimensional analysis of data, honed my deconstructive faculties to leave nothing unresolved or unconsidered, and how to normalize qualitative data and render it as objective and empirical as possible. What remains to learn is efficiency.