Is Systematic Telephone Tutoring More Effective for Some Correspondence Students Than for Others? An Exploratory Study

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The course tutor is regarded as a vital component in the correspondence method of instruction (Baath, 1979; Brady, 1976; Store & Armstrong, 1981). Nonetheless, in traditional correspondence study the opportunity for interaction between the student and the course tutor is very limited. Generally, contact is restricted to the written comments which tutors offer in response to the assignments which students submit. The limited contact between student and tutor is frequently cited as a limitation of the correspondence method (Childs, 1971; Malley, Brown, & Williams, 1976; Reedy, 1971). Although telephone tutoring has been recommended as a strategy to increase the interaction between correspondence students and their tutors (Baath, 1979; George, 1979; Sweet, 1982), studies which have investigated the effectiveness of telephone tutoring have produced inconclusive results.

Flinck (1978) studied the use of systematic telephone tutoring in support of correspondence instruction. Students in the experimental treatment group received telephone calls initiated by their course tutor following the return of each assignment. The telephone calls were in addition to the written comments accompanying their assignments which were provided to students in both the experimental and control groups. Flinck concluded that telephone tutoring was experienced positively overall, but was of greater advantage to students studying a foreign language than to students studying the social sciences. His study included a content analysis of the

telephone conversations between students and their tutors. He reported that 32% of all calls included some mention of personal or social problems which the student was experiencing. These increased in frequency with the number of conversations between students and their tutors. He reported ambiguous results insofar as the effects of systematic telephone tutoring upon feelings of isolation experienced by students. Nonetheless, he did find that those students who dropped out of their courses were significantly more likely to report that they felt isolated.

Wilson (1968) studied the effects of biweekly telephone conferences between instructors and students in support of their correspondence courses. Differences were reported between students in the experimental treatment who participated in telephone conferences, and those in the control group, who did not, in regard to the number who started, completion rate, completion lag time, and the number completing lessons and writing the examinations. Unfortunately, it was not clear what specific effects were attributable to the telephone conferences, as other treatment differences existed between the two groups. Nonetheless, Wilson concluded that supplementary voice contact is an important addition to the traditional correspondence method.

Scales (1984) investigated the relationship between telephone contact and persistence among students in correspondence study. She reported a positive relationship between the number of telephone calls between students and their tutors and the porportion of assignments submitted. Nonetheless, the relationship was clearly greater among Adult Basic Education and Career Technical Vocational programs than in University Programs. She proposed that the level of experience with formal education, study skills, and personal concern may explain these differences. She concluded that the results of the study were not conclusive but warranted further research.

Ahlm (1972) also studied the effects of telephone contact between students and their tutors in correspondence study. In her study, students in the experimental condition were encouraged to initiate calls to their course tutor if they had any difficulties with the course. No significant differences were found, however, between the students who were encouraged to call their tutor and those who did not receive such encouragement, in regard to either assignment results or the pace at which students finished the course. It was reported that students who did contact their tutor by telephone received higher final grades than those students who did not. This may, however, have been the consequence of a third variable which caused some students to both call their tutor and achieve better results.

Orton (1978) described an experiment in which correspondence students were invited to telephone their course tutor whenever necessary. He reported that the reactions of students and instructors to telephone tutoring was very positive. Instructors reported that telephone tutoring provided a "psychological boost" to students. Nonetheless, only 31.5% of the students were actually in touch with their instructor by telephone. Similarly, Ahlm (1972) reported that only 12% of the students in her study initiated calls to their tutors. The relatively infrequent initiation of telephone contact by students has been reported by others (Flinck, 1978; Holmberg, 1981). It is possible that not all students want or need such contact. Indeed, there is some evidence to support this proposition.

Beijer (1972) investigated student preferences for various instructional treatment alternatives among students who registered in a correspondence study program. He reported that 23% of the students indicated a preference for traditional correspondence study supplemented by telephone contact with the teacher. Surprisingly, however, 33% indicated a preference for traditional correspondence study alone, that is, *without* telephone contact. Similarly, Potter (1983) investigated whether students enrolled in correspondence study preferred the traditional correspondence model in which interaction between the student and the tutor is minimal, or correspondence study supplemented by face-to-face or telephone interaction. He reported that 29% of the students indicated a preference for correspondence study with minimal interaction with the tutor.

It is possible that telephone tutoring is not equally effective for all students. Cronbach and Snow (1977) have suggested that interactions occur between learner characteristics and instructional modes. The instructional approach which is best suited to one person who possesses certain characteristics may not be equally suited to another person who has different characteristics. Accordingly, it may be that telephone tutoring is an instructional treatment which is highly valued and of significant benefit to some correspondence students, but of little consequence to others. In this event we could expect to encounter inconclusive results for the treatment effects of telephone tutoring when examining the combined results across all subjects.

If differential benefits to correspondence students do result from the provision of systematic telephone tutoring, this would have significant consequences for correspondence educators. The provision of such adjunctive support systems for correspondence students is expensive to provide for all students (Bates, 1983; Daniel & Marquis, 1983). Bracht (1970) suggested that consideration be given to the selective provision of costly instructional supplements to those for whom it provides the greatest benefit.

PURPOSE OF THE STUDY

This study investigated the relationship between correspondence students' attitudes toward the importance of telephone contact with their course tutors and the effects of providing such contact. The fundamental question addressed by this study was the following: Do those correspondence students who indicate that telephone contact with their course tutor will be important to them derive greater benefit from such contact than those correspondence students who indicate that such contact is less important to them? The specific hypotheses tested were as follows:

1. Among correspondence students who indicate that telephone contact with their course tutor will be important:
   a) There will be greater persistence among those students provided with systematic telephone tutoring than among those not provided with such tutoring.
   b) There will be greater satisfaction with the correspondence study experience among those students provided with systematic telephone tutoring than among those not provided with such tutoring.
2. Among correspondence students who are not provided with systematic telephone tutoring:
   a) There will be greater persistence among those students who indicated an expectation that telephone contact with their course tutor would be less important to them than among those students who expected that such contact would be important.
   b) There will be greater satisfaction with the correspondence study experience among those students who indicated an expectation that telephone contact with their course tutor would be less important to them than among those students who expected that such contact would be important.

METHOD

Sample

The subjects were selected from those students who registered for correspondence courses offered by the University of Manitoba during the 1983–84 academic session. Only those students resident in the Province of Manitoba were included in the study; other students were deemed to be too far away to provide systematic telephone tutoring, primarily due to the costs involved. Students were distributed over a total of 14 different courses in the following disciplines: Economics, English, Geography, History, Philosophy, Political Studies, Psychology, and Sociology. Only those students who were registered in not more than one full course (6 credit hours) or two consecutive paired half-courses were included in the study; other students were excluded in order to avoid possible con-

founding or interactive effects resulting from different correspondence courses. Students were eligible for inclusion in the study as soon as they submitted their registration forms and paid the tuition fees. This was taken to indicate a serious intention to begin the course. A total of 106 students were invited to participate in the study, and 102 agreed to do so. Students were individually interviewed in person by the first author after they had been selected for inclusion in the study and before they had actually begun their correspondence studies.

The interview questionnaire included a set of questions which were analyzed to ensure that there was no systematic bias in the assignment to treatment condition on variables which may relate to persistence or to satisfaction with the correspondence study experience. Specifically, the following data were collected during the interview: previous experience with correspondence study, level of formal education, years since last enrolled in full-time study, recent participation in courses or workshops sponsored by a university or college, and whether the course was a program requirement. In addition, the following information was collected from student records: cumulative grade point average, age, gender.

There were 62 subjects who indicated that they had previous experience with correspondence study, and 40 subjects who did not. There were 12 subjects who had not completed any university courses, 32 subjects who had completed part or all of the first year of a degree program, 25 subjects who had completed part or all of second year, 25 subjects who had completed part or all of third year but had not yet completed all degree requirements, and 8 subjects who had completed a Bachelor's degree. The average number of years which had elapsed since subjects had last been enrolled in full-time study was 13.4, with a range of 0 to 45 years. A total of 72 subjects indicated that they had completed a course or workshop offered by a university or college within the previous 12 months, whereas 30 subjects had not. The correspondence course in which the subject was registered was a program requirement for 30 subjects and not a program requirement for 68 subjects; 4 subjects were uncertain as to whether it was a program requirement. The mean cumulative grade point average for all subjects was 3.12 (on a 4.0 scale), with a range of 1.25 to 4.00. The mean age for all subjects was 34.4, with a range of 19 to 61 years. There were 76 female subjects and 26 male subjects.

During the course of the interview, subjects were advised that they would have the opportunity to call their instructor whenever they felt such assistance was required. A toll-free line was made available to them, and tutors were requested to establish regular hours during which they would be available to take calls from their students. No mention was made, however, of the provision of systematic telephone tutoring. Subjects were asked the following question:

How important to you personally do you expect the opportunity to speak with your tutor will be as a support to your own correspondence study?

Subjects were invited to select one of the following responses to the question: extremely important, important, useful, not important. The distribution of responses was as follows: extremely important, 18; important, 34; useful, 44; unimportant, 6.

Description of Treatment Conditions

Subjects were assigned to one of two treatment conditions. The first treatment condition was based upon the traditional model of correspondence study in which students are provided with a textbook, supplementary course notes, and a series of assignments which are to be completed sequentially and forwarded to the course tutor as they are completed. The courses in which the subjects in the present study were enrolled had a range of 6 to 10 required assignments. Once received by the course tutor, the assignments were reviewed and the tutor provided feedback in the form of (usually extensive) written comments.

The second treatment was identical in all respects to the first, except that in addition to written feedback, subjects were also telephoned by the course tutor immediately following the return of each assignment. The course tutors were instructed to review their written comments with the students

they contacted, but in addition to feel free to discuss any additional matters of interest or concern to the students. All costs relating to long-distance charges were paid by the university. Course tutors were requested to ensure that they provided the same written feedback to subjects who were in treatment condition 2 as they would have provided if the subjects were in treatment condition 1. That is, the tutors were asked to avoid providing less written feedback to those subjects they knew they would be contacting by telephone. No constraints were placed on either the duration or content of the calls, with one exception: Course tutors were directed to avoid providing any direct assistance to subjects concerning the completion of future assignments. (The specific instructions given to course tutors regarding the procedures and directions for systematic telephone tutoring are described in detail elsewhere [Thompson, 1984]).

The 102 subjects were categorized according to the level of importance they attached to having telephone contact with their course tutor. Those subjects who indicated that such contact would be either "extremely important" or "important" were categorized as "high telephone importance." Those subjects who indicated that such contact would be either "useful" or "unimportant" were categorized as "low telephone importance." Half of the "high telephone importance" subjects and half of the "low telephone importance" subjects were randomly selected and assigned to treatment condition 1 wherein no systematic telephone tutoring would be provided. The remaining 51 subjects were assigned to treatment condition 2 in which systematic telephone tutoring would be provided.

The subjects in the two treatment conditions were compared to ensure that there was no systematic bias in the assignment of subjects to the treatment condition. No significant differences were found in the following variables: previous experience with correspondence study, level of formal education, years since last enrolled in full-time study, recent participation in courses or workshops sponsored by a university or college, whether the course was a program requirement, cumulative grade point average, age, gender. There was, however, a significant difference between subjects in the two treatment conditions in regard to their distribution across the 14 courses. Accordingly, it was necessary to control for the subjects' courses as a possible confounding variable in the analysis of the data.

Instrumentation

Course Evaluation Form. The course evaluation form was mailed to all subjects after the final examination was held. All subjects, including those who had discontinued their correspondence courses, were asked to complete and return the form. The initial draft of the course evaluation form consisted of 18 statements concerning the correspondence method, the course materials, the course tutor, and the course itself. Each statement was randomly assigned to one of two formats. The first format phrased the statement in a positive context, e.g., "I am quite satisfied with the correspondence method as a form of instruction." The second format phrased the statement in a negative context, e.g., "The amount of feedback from my course tutor was inadequate." The instructions directed respondents to select one of seven Likert-style response alternatives, ranging from 1 indicating "strongly agree" to 7 indicating "strongly disagree."

The course evaluation form was pretested with the staff in the University of Manitoba Correspondence Office and with several of the course tutors. Several minor changes in the phrasing were suggested and were included in a revised form. The revised course evaluation form was pretested with students registered in the 1982-83 correspondence program. It was distributed to 148 students who met the same selection parameters that were to be employed in the selection of students for the actual study. A total of 121 of these students completed and returned the course evaluation form. This represented a response rate of 82%. Students were encouraged to add additional comments at the end of the form concerning their evaluation of the correspondence course they had just completed.

In order to further establish the validity of the instrument, a content analysis was per-

formed to determine whether there were course evaluation concerns or issues not addressed by the specific questions on the course evaluation form. (The specific procedures used in the content analysis are described in detail elsewhere [Thompson, 1984]). The content analysis led to the inclusion of four additional questions and the deletion of one of the original statements. Accordingly, the final copy of the course evaluation form consisted of 21 statements. Several other minor changes were made to the course evaluation form including a reordering of the statements and more explicit instructions intended to promote responses from subjects who enrolled but did not commence their correspondence studies or who withdrew prior to the final examination.

Telephone Tutoring Evaluation Form. Those subjects assigned to treatment condition 2 and hence received systematic telephone tutoring were also requested to complete a telephone tutoring evaluation form. This form was modeled after the questionnaire employed by Flinck (1978). However, several of the questions explored by Flinck were not included in this study, either because they were not relevant to the present study or because they appeared to closely parallel statements already included in the course evaluation form. The telephone tutoring evaluation form was intended to explore, in more specific detail than the course evaluation form, the reactions of subjects to the provision of systematic telephone tutoring.

The telephone tutoring evaluation form consisted of 13 items which corresponded directly to items included in Flinck's evaluation questionnaire. Nine of these items were evaluation statements to which each subject was asked to respond by selecting one of seven Likert-style response alternatives ranging from 1 indicating "strongly agree" to 7 indicating "strongly disagree." The remaining four items were questions to which various response sets were provided. The telephone tutoring evaluation form was distributed to the subjects who had received systematic telephone tutoring after they had completed and returned the course evaluation forms.

Statistical Methodology

Hypotheses 1a and 2a were tested by means of chi square analyses. Three categories of the dependent variable "persistence" were defined. Those subjects who submitted no assignments were classified as "non-starts." Subjects who submitted at least one assignment but did not take the final examination were classified as "withdrawals." Subjects who submitted at least one assignment and who took the final examination were classified as "completers." Only those subjects who submitted at least one assignment (i.e., withdrawals and completers) and who were assigned to treatment condition 2 received systematic telephone tutoring. Hypothesis 1a was tested by comparing the distribution of withdrawals and completers between those subjects who received systematic telephone tutoring and those who did not. Only the 52 "high telephone importance" subjects were included in this analysis. Hypothesis 2a was tested by comparing the distribution of dropouts, withdrawals, and completers between "high telephone importance" subjects and "low telephone importance" subjects. Only the 51 subjects assigned to treatment condition 1 (i.e., no systematic telephone tutoring) were included in the analysis. The procedure employed to control for the possible confounding effect of the course in which subjects were enrolled is described in the Preliminary Results section.

Hypotheses 1b and 2b were tested by means of Kruskal-Wallis one-way analyses of variance because the course evaluation scores were ordinal data. Only those subjects who submitted at least one assignment were included in these analyses. Drop-outs were excluded, as they could not be considered to have experienced the treatment condition to which they had been assigned in that they did not receive any feedback from their course tutor. Hypothesis 1b was tested by comparing course evaluation scores between subjects in treatment condition 1 with those in treatment condition 2. Only the "high telephone importance" subjects were included in this analysis. Hypothesis 2b was tested by comparing course evaluation scores between "high telephone importance" subjects and "low telephone importance" subjects. Only the subjects as-

signed to treatment condition 1 were included in the analysis. The procedure employed to control for the possible confounding effect of the course in which students were enrolled is described in the Preliminary Results section.

RESULTS

Preliminary Results

As noted previously, the course in which subjects were enrolled was a potentially confounding variable. A chi square analysis was first performed upon the persistence behavior (i.e., dropouts, withdrawals, completers) by course. Because of the relatively small cell sizes (many less than 5) when only subjects in the present study were included, it was decided to include all students registered in the 14 courses, including those who had been excluded from the study. Most of these students had been excluded due to place of residence (i.e., they lived outside of Manitoba). Some others were excluded because they had been registered concurrently in more than one correspondence course. These factors were not considered to be likely to differentially affect persistence behavior across courses. It was concluded that the persistence behavior was associated with the course variable, χ^2 (13, n = 489) = 20.9, p = .07. One particular course was found to be contributing most of the variance, and only 2 subjects were enrolled in this course. Excluding this course resulted in a more acceptable (i.e., less significant) association between persistence behavior and the course variable, χ^2 = (12, N = 465) = 14.2, p = .29. Accordingly, the analyses of the effects of the independent variables upon persistence behavior included only 100 subjects enrolled in 13 courses. It was concluded that the course in which students were enrolled was not a confounding variable insofar as the analysis of persistence behavior (across the remaining courses) was concerned.

In order to determine whether the course in which subjects were enrolled was a confounding variable insofar as course evaluation scores were concerned, a Kruskal-Wallis one-way analysis of variance procedure was employed with the variable course as the independent variable. Course evaluation forms were returned by 90 of the 102 subjects in the study. All of the course evaluation scores provided by these subjects were included in this analysis. A significant difference was found between evaluation scores for evaluation statement 9, which read as follows:

> Library resources in support of the course were satisfactory.

The difference in evaluation scores for this evaluation statement is not surprising, since some of the courses are much less dependent upon such resources (i.e., introductory courses). As this evaluation statement was not expected to be of primary interest in comparing evaluation scores between treatment conditions and between the "high telephone importance" and "low telephone importance" subjects, it was eliminated from subsequent analyses. It was concluded that the course in which students were enrolled was not a confounding variable insofar as (the remaining) course evaluation scores were concerned.

In order to determine whether the course in which subjects were enrolled was a confounding variable insofar as telephone tutoring evaluation scores were concerned, a Kruskal-Wallis one-way analysis of variance procedure was employed with the course in which students were enrolled as the independent variable. There were 42 subjects in treatment condition 2 who submitted at least one assigment and received systematic telephone tutoring. Telephone tutoring forms were returned by 33 of these subjects. All of the telephone tutoring scores provided by these subjects were included in this analysis. None of the comparisons of the telephone tutoring evaluation scores by course produced a difference with a probability level less than or equal to .10. It was concluded that the courses in which students were enrolled was not a confounding variable insofar as telephone tutoring evaluation scores were concerned.

Primary Results

Persistence. Among the 52 "high telephone importance" subjects, there were 36 subjects who submitted at least one assign-

ment. There were 18 subjects in each treatment condition. It was concluded that there was no significant difference in persistence behavior (i.e., withdrawals and completers only) between the "high telephone importance" subjects who received systematic telephone tutoring and those who did not, χ^2 (1, n = 36) = .15, p = .70. Accordingly, hypothesis 1a was not accepted.

Among the 51 subjects assigned to treatment condition 1 (i.e., without systematic telephone tutoring), there were 38 subjects who submitted at least one assignment. Eighteen of these subjects were in the "high telephone importance" category. The remaining 20 subjects were in the "low telephone importance" category. It was concluded that there was no significant difference in persistence behavior (i.e., withdrawals and completers only) between these two groups, χ^2 (1, n = 38) = .33, p = .57. Accordingly, hypothesis 2a was not accepted.

Course Evaluation Scores. As noted previously, there were 36 "high telephone importance" subjects who submitted at least one assignment. Course evaluation forms were returned by 34 of these subjects. Table 1 presents the 21 course evaluation statements, together with the results of Kruskal-Wallis analyses of variance by treatment condition for "high telephone importance" subjects.

The only course evaluation statement which produced a significant difference (p < .05) between the two treatment conditions was evaluation statement 12, which read as follows:

The course tutor/instructor took a personal interest in me.

The "high telephone importance" subjects who received systematic telephone tutoring were more likely to agree with this statement than those subjects who did not receive such contact. The only other statement which approached a significant difference between these two groups of subjects was evaluation statement 19 (p = .07), which read as follows:

I feel that this course was useful in my university education.

The "high telephone importance" subjects who received systematic telephone tutoring were *less* likely to agree with this statement than those who did not receive such contact.

In summary, it would appear that there was little difference in the course evaluation scores between the "high telephone importance" subjects who did receive systematic telephone tutoring and those who did not. It does appear that those "high telephone importance" subjects who did receive systematic telephone tutoring were more likely to feel that their course tutor took a personal interest in them. Nonetheless, this was not

TABLE 1
Analysis of Course Evaluation Scores by Treatment Condition for "High Telephone Importance" Subjects.

Evaluation Statement	*Mean Rank for Treatment Condition 1*	*Mean Rank for Treatment Condition 2*	*Chi Square Approximation*	*df*	*p*
1. I would have preferred to study this course in a regular classroom setting with other students.	16.9	17.1	0.01	1	.94
2. The flexibility and independence of correspondence study is important to me.	18.9	16.1	0.74	1	.39
3. I am quite satisfied with the correspondence method as a form of instruction.	19.3	15.7	1.16	1	.28
4. Correspondence courses require much more time and					

TABLE 1 (Continued)
Analysis of Course Evaluation Scores by Treatment Condition for "High Telephone Importance" Subjects.

Evaluation Statement	*Mean Rank for Treatment Condition 1*	*Mean Rank for Treatment Condition 2*	*Chi Square Approximation*	*df*	*p*
effort than regular classroom courses.	18.8	16.2	0.61	1	.43
5. The materials provided for this course were satisfactory.	18.3	16.7	0.28	1	.60
6. The textbook for the course was not very helpful in my studies.	17.2	17.8	0.03	1	.87
7. The course materials were neither clear nor well organized.	17.7	17.3	0.01	1	.87
8. The assignment facilitated my understanding of the course material.	18.8	16.2	0.72	1	.40
9. Library resources in support of the course were satisfactory.	Excluded from Analysis				
10. The feedback from my course tutor/instructor was important in promoting my understanding of the course material.	19.3	14.9	1.83	1	.18
11. The feedback from my course tutor/instructor did not increase motivation to spend time studying this course.	19.0	15.2	1.41	1	.24
12. The course tutor/instructor took a personal interest in me.	22.0	12.3	8.58	1	.003
13. The feedback from my course tutor/instructor encouraged me to continue my studies and to complete the course.	18.6	15.5	0.85	1	.36
14. The amount of feedback from my course tutor/instructor was inadequate.	18.2	15.9	0.56	1	.45
15. There were unsatisfactory delays in receiving feedback from my course tutor/instructor on my assignments.	18.1	16.0	0.43	1	.51
16. I did not feel isolated while studying this course.	16.6	17.4	0.07	1	.79
17. Sometimes I was greatly tempted to withdraw from this course.	15.8	17.1	0.16	1	.69
18. I feel that I learned little or nothing from this course.	15.60	17.3	0.34	1	.56
19. I feel that this course was useful in my University education.	13.5	19.1	3.33	1	.07
20. I would not recommend this course to other students.	15.0	17.8	0.83	1	.36
21. There were too many assignments required for this course.	17.2	15.9	0.15	1	.70

associated with differences in the evaluation of the correspondence study experience (evaluation statements 1 and 3). Similarly, there is no difference between the two groups insofar as the subjects' feeling of isolation while studying the course (evaluation statement 16). Finally, the course evaluation statements regarding the feedback from the course tutor (evaluation statements 10, 11, 13, 14, and 15) did not produce significant differences between the scores of the two groups. Accordingly, hypothesis 1b was not accepted.

There were 38 subjects in treatment condition 1 who submitted at least one assignment. Course evaluation forms were returned by 34 of these subjects. The course evaluation scores for these subjects were compared between the "high telephone importance" subjects and the "low telephone importance" subjects. None of the comparisons of the course evaluation scores between these two groups produced a difference with a probability level less than or equal to .10. Accordingly, hypothesis 2b was not accepted.

Secondary Results

There were 17 "high telephone importance" subjects and 16 "low telephone importance" subjects who returned the telephone tutoring evaluation forms. Table 2 presents the 13 telephone tutoring evaluation statements/questions, together with the results of Kruskal-Wallis analyses of variance by level of importance attached to telephone contact with the course tutor.

Significant differences in telephone tutoring evaluation scores were found between "high telephone importance" subjects and "low telephone importance" subjects for evaluation statements 2, 7, and 9 and question 10. These statements and the probability levels associated with the differences between the telephone tutoring evaluation scores between the two groups follow:

Statement 2. "The telephone calls have made me feel that somebody is taking an interest in my studies" ($p = .004$).

Statement 7. "The telephone calls have helped me to a better understanding of the content of the course" ($p = .02$).

Statement 9. "The telephone calls have made it easier to get over particular difficulties in the course" ($p = .05$).

Question 10. "In this course we have phoned you in connection with your completed exercise papers. What is your general reaction to this contact with your tutor?" ($p = .05$).

As expected, the differences in course evaluation scores for statements 2, 7, and 9 and for question 10 were uniformly in the direction of "high telephone importance" subjects reporting more positive scores than "low telephone importance" subjects.

A total of 166 calls were initiated by tutors following the return of assignments to their students. Tutor-initiated calls were placed to 42 subjects (the remaining 9 subjects assigned to treatment condition 2 submitted no assignments). The duration of these calls ranged from 2 to 55 minutes and the mean call length was 10.4 minutes.

There were 15 student-initiated calls to their tutors by a total of 11 subjects. It is interesting to note that 10 of these subjects were in treatment condition 2 and had received at least one tutor-initiated call prior to making their call(s) to the tutor. Further, only 5 of the 11 subjects who initiated calls to their tutor were in the "high telephone importance" category.

DISCUSSION

The results of the present study provide little evidence that the provision of systematic telephone tutoring is an important supplement to the traditional correspondence method. Subjects who claimed that telephone contact with their course tutor would be important to them showed no differences in persistence behavior or course evaluation scores whether or not they received systematic telephone tutoring. In addition, among those subjects who did not receive systematic telephone tutoring, no differences in persistence behavior or course evaluation scores were found between those subjects who claimed that telephone contact with their course tutor would be important and those subjects who

TABLE 2
Telephone Tutoring Evaluation Scores by Level of Importance Attached to Telephone Contact with the Course Tutor.

Evaluation Statement/Question	*Mean Rank for "High Telephone Importance" Subjects*	*Mean Rank for "Low Telephone Importance" Subjects*	*Chi Square Approximation*	*df*	*p*
1. The telephone calls have given me encouragement in my studies.	16.2	17.8	0.27	1	.61
2. The telephone calls have made me feel that somebody is taking an interest in my studies.	12.6	21.7	8.51	1	.004
3. The telephone calls have been a disturbance to my studies.	15.9	18.2	0.55	1	.46
4. The telephone calls have helped me to feel less isolated.	14.4	19.7	2.67	1	.10
5. The telephone calls have helped me to become more interested in the subject.	15.0	19.1	1.59	1	.21
6. The telephone calls have made my studies more stimulating.	15.3	18.8	1.18	1	.28
7. The telephone calls have helped me to a better understanding of the content of the course.	13.4	20.8	5.10	1	.02
8. The telephone calls have helped me to identify key points in the course.	17.1	16.9	0.00	1	.96
9. The telephone calls have made it easier to get over particular difficulties in the course.	13.9	20.3	3.82	1	.05
10. In this course we have phoned you in connection with your completed exercise papers. What is your general reaction to this contact with your tutor?	13.5	19.5	3.76	1	.05
11. Has the knowledge that your tutor will phone you made you feel embarassed or uncomfortable?	15.7	17.3	0.34	1	.56
12. Do you think that telephone conversations with your tutor have helped you with anything you otherwise could not have managed?	14.6	18.4	1.46	1	.23
13. If it were necessary for you to contact your tutor about problems encountered in the course, would you prefer to phone or to write?	15.6	18.3	1.23	1	.27

claimed that such contact would be less important. Few telephone calls were initiated by subjects, although those subjects who had received a tutor-initiated call were far more likely to subsequently call their tutor than those subjects who were not called by their tutor. The telephone tutoring evaluation scores did reflect some differences between subjects who claimed that telephone contact with their tutor would be important and those who indicated that such contact would be less important. These differences were, however, comparatively modest.

It is not particularly surprising to find no significant differences in persistence behavior. It has been reported that the drop-out phenomenon is a complex one which is the consequence of multiple factors (Bartels, 1982; Boshier, 1973; Knox & Sjogren, 1965; Malley, Brown & Williams, 1976; Pascarella, 1982, Rekkedal, 1972; Tinto, 1975; Woodley & Parlett, 1983). In addition, Moore (1976) noted that students may not be equally suited to the correspondence method of instruction, but if they do commence correspondence study, they might persist despite a greater preference for other instructional modes. Nonetheless, if such differences in preference do exist, they could be expected to be reflected in course evaluation scores and telephone tutoring evaluation scores. Although modest differences in these scores were reported, they are not likely to be sufficient to convince most correspondence educators that the costs associated with the provision of systematic telephone tutoring are warranted based upon the evidence reported in the present study.

Should we conclude that systematic telephone tutoring in support of the traditional correspondence study mode is not justified? Such a conclusion may well be premature. The subjects in the present study were a self-selected sample. They did not expect to receive systematic telephone tutoring at the time that they decided to register for their course. Further research is necessary to investigate whether the awareness that systematic telephone tutoring will be provided might attract a different type of student to correspondence study. In other words, it is conceivable that those students who would have most greatly benefitted from systematic telephone tutoring are not represented (or are underrepresented) in the sample employed in the present study. It may be that the publicized availability of increased interaction with the course tutor by means of tutor-initiated telephone contact would attract others to correspondence study.

In addition, it is possible that the experimental treatment in the present study could be made more effective by means of increased training for telephone tutors and more frequent contact with their students. It is also possible that telephone tutoring may have greater value for courses which are less oriented toward knowledge acquisition and more oriented toward learning which has a greater psychomotor component, such as word processing.

Nonetheless, the results of this study have important consequences for correspondence educators. While the findings must be regarded as exploratory rather than definitive, they call into question the value of the prevailing practice of providing telephone tutoring in correspondence study. How much contact between the correspondence student and the course tutor is optimal? If correspondence educators are presently providing or are intending to provide systematic telephone tutoring for their correspondence students, are they satisfied that significant benefits accrue from the provision of such contact? Additional research is clearly warranted and required in order to guide such decision-making.

Finally, this study did not demonstrate a significant aptitude-treatment interaction effect. Nonetheless, it is proposed that this type of interaction is important to investigate when we seek to develop or improve upon instructional modes such as correspondence study. If we do discover that a supplementary instructional treatment does produce evident benefit to an identifiable subgroup of students, we may then determine whether to selectively provide such treatments to those students who will derive greater benefit. In particular, those supplementary instructional treatments which are costly to provide, particularly where the resources are not available for all students, warrant such investigation.

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