Abstract

Vocational education students sometimes do not achieve their goals in distance education programs. One reason for this outcome could be a lack of contact between the teacher and the learner. This research aims to investigate the impact of faculty-initiated telephone contact on interaction and on the progress of a group of vocational students working in a distance education mode. An experimental methodology was employed in which one group of students received structured telephone contact, while another group did not receive such contact. A range of learning progress variables was measured and as well, qualitative information of the perception of students and teachers about this process was obtained by survey. Structured, faculty-initiated telephone contact, at least as it was designed in this study, did not result in statistically significant between-group differences. The students exposed to telephone contact, however, were positive about the experience. Overall, the results of this study support those previously found in Europe.

Introduction

Education can occur in many forms. One of these forms is distance education, which is becoming increasingly popular for adults because of the work and life demands on their time. This educational technique is generally distinguished from conventional education because of the separation of the learner from the teacher. The learner works alone, guided by study material, while the teacher is in a geographically separate location. The lack of interaction between the teacher and the learner, or so it has been suggested, appears to be associated with some students not achieving their educational goals in distance education (e.g. Rekkedal 1985).

For example, one widely recognised problem within distance education is students not persevering with their studies (e.g. Carr & Ledwith 1998). Researchers have identified the student’s sense of isolation and its consequential impact on motivation being a leading reason for students to withdraw (e.g. Potter 1983). In an effort to reduce the student’s feeling of isolation, it has been identified that it is crucial for some kind
of interaction to occur between the teacher and the student and one strategy to improve the two-way communication between the learner and the teacher is through reinforcing the postal communication with systematic telephone calls (e.g. Flinck 1978). Investigation of the impact of a program of teacher-initiated telephone contact is the primary aim of this study.

There are many students who choose to study in a distance education institution. This occurs because time constraints, rather than distance, seems to be the major element facing their decision to take up tertiary studies. Hezel and Dirr (1990) found that American college students find managing their limited time in view of competing demands from jobs, families and other responsibilities to be the greatest challenge (p.6). The need for flexibility in learning impacts on the type of teaching and support that occurs in distance education. Utilising media and technologies such as video-conferencing and audio-conferencing within distance education that requires learners to be at a specific place, at a specific time are only of limited use for institutions. For a large percentage of distance students, delivery essentially needs to be based upon the asynchronous correspondence model. The correspondence model essentially relies on written material in the form of learning materials and two-way communication via mail correspondence. The core element of most distance education programs today is still the correspondence model of distance education.

Correspondence education, in comparison to conventional education, not only benefits the student but is also popular with funders of education, such as governments and business. This is due to the possibility of delivering education to a large number of geographically dispersed students at a cheaper cost. Lentell (1994) realised that distance education is able to do this because, by its nature, it is able to separate ‘the production of “knowledge” —the courses—from the learning of courses’ (p.50). This procedure facilitates one set of learning materials for a particular course to be delivered, in theory, to infinite numbers of students.

Nevertheless, Rekkedal (1985) has argued that ‘the rationalisation and industrialisation of distance education, which has seemed to be necessary to cater for large student groups and at the same time keep
down expenses, results in a division of work and a depersonalisation of instruction’ (p.61). This depersonalisation of the instruction has changed the relationship between the teacher and student that traditionally existed in tertiary education.

The preference for a distance mode of external studies, which incorporates greater interaction between the teacher and the student, is indicative of the isolation students feel in correspondence study (e.g. Potter 1983). Harrington (1979, cited in Sweet 1986, p.203) found that the most frequently stated reason for non-completion in correspondence study was the sense of isolation. Cropley and Kahl (1983) also considered the psychological impact on students of the correspondence model. They found also that one of the major problems encountered by distance learners was the isolation they felt and its effect on motivation.

This isolation from a socially constructed learning environment makes distance learners more reliant on their own motivational resources to be successful in correspondence education, than is the case for face-to-face learners. They need to be more responsible for their learning, making their own arrangements about when, what, and where to learn. They need to resist all of the tempting alternative activities and provide their own encouragement and rewards (Cropley & Kahl 1983, p.36).

The skill of self-motivation that students either bring with them to correspondence study or develop through the process is an extremely important outcome of correspondence study. Cropley and Kahl (1983) as well as Towles, Ellis and Spence (1993) found, however, that the consequences of the more difficult learning situation and the great isolation of distance learners was that the students were less confident about their ability to complete their studies.

The problem of students not persisting with distance education courses has not gone unnoticed. In fact, according to Rekkedal (1985) since the mid-60s there ‘is no doubt that dropout is the problem which has been given the highest priority among researchers within correspondence or distance education’ (p.14). Powell (1991), as well as Wilkinson and Sherman (1991), have commented that despite the worldwide growth of distance education, there remains a major problem with high rates of attrition as well as student procrastination with their studies. These
researchers mentioned 'dropout', 'attrition' and 'procrastination', whereas Zajkowski (1997) identified additional terms used to describe the issue in the literature, including 'withdrawal', 'persistence', 'progress', 'success', or 'completion'. Nonetheless, it is difficult to compare research data from separate institutions because sometimes institutions may employ different systems of enrolment or have different policies on what data are included within figures (Powell 1991). For example, are students included in 'persistence' figures who complete all assessment tasks but ultimately fail the module?

Acknowledging the difficulties with institutional comparisons, the gravity of the attrition problem is evident in the research of Carr and Ledwith (1998), Rekkedal (1982) and Zajkowski (1997). Zajkowski (1997) collected average 'completion' rates for the years 1982, 1989 and 1990 across various countries and institutions, with the average completion rate being evenly distributed between 29 per cent and 68 per cent. Carr and Ledwith (1998) found that 'attrition' rates exceeded 30 per cent in distance learning institutions and a comprehensive study by Rekkedal (1982) revealed that almost 12 per cent of the students did not submit even one assignment (cited in Case & Elliot 1997).

Theoretical models of the drop-out process proposed by Tinto (1975) and later Kember (1995) have shown that lack of persistence with distance education is a complex phenomenon influenced by a multitude of variables (Kember 1990, p.11). Tinto (1975, p.96) argued that dropout from an institution was the outcome of a series of interactions between the student and the institution at which the student is enrolled (Sweet 1986). Researchers since 1975 (e.g. Garrison 1987; Lenning 1982; Pascarella 1982; Pascarella & Terenzini 1980; Potter 1983; Rekkedal 1989; Sweet 1986) have continued to support Tinto’s analysis in recognising that a student’s social integration is a major determinant of persistence and their ultimate course completion.

Nevertheless, Tinto (1975) argued that contact between the student and an institution can develop social integration and is socially just as relevant as peer involvement. Indeed, the importance of the faculty in facilitating social integration has been documented in a number of studies. Pascarella and Terenzini (1980) noted that among the indicators of social integration were the frequency and quality of contact between
students and faculty. This impacted significantly upon students' positive attitudes and commitment towards the institution and noticeably influenced persistence. This was confirmed by Hezel and Dirr (1990), who found that students highly valued communication with the faculty staff. The ability to communicate and interact with other students was considered less important by most students.

The importance of student-faculty interactions to the student's sense of institutional integration in a distance education setting has been identified by Lentell (1994) and Rekkedal (1985), although traditionally, interaction between the teacher and the student in the correspondence model of education occurs through written means. The communication occurs in the form of feedback on assignments and communication back to the student from the teacher; communication from and to the student is referred to as two-way communication. Research has shown that courses and subjects that have only correspondence study materials must be complemented by improved and changed arrangements for two-way communication, in order to help eliminate feelings of isolation by students (Flinck 1978). This can be achieved by face-to-face tutorials, or by means of electronic and technological devices such as television, computers, radio, audio-tapes and the telephone.

The telephone is an extremely flexible means of teacher-student interaction because there is no travel involved, it is in the majority of households, it is immediate, it overcomes geographical differences and it accommodates individual needs. The purpose of telephone calls (termed 'teletutoring') is not specifically for delivery of course content but to facilitate two-way communication between the student and the teacher so as to assist the student to overcome some of the difficulties associated with learning in isolation (Flinck 1978). This is not the case for the other types of telephone educational support such as teleteaching, telelecture and dial access. The most important function of a teacher in teletutoring is in stimulating, supporting and strengthening students' motivation.

The teacher or tutor could have this motivating effect for a number of reasons. First, a call shows a personal interest in the learner because the tutor makes the initial contact; second, a tutor's comments should help establish a rapport and put the learner at ease; third, feedback from the
tutor should involve positive reinforcement (which is mildly activating) and provide helpful information on work planned or submitted; fourth, the call is meant to 'combat inertia' and to get the student started; fifth, it places a tutor's voice with a name and sixth, the telephone is immediate and can handle the immediate diagnosis of problems and motivate by suggesting solutions. Teletutoring also can better deal with a range of individual learner differences than a form letter.

It is not the main purpose of this paper to further theorise the relevance or importance of each of these potential student motivational variables. Indeed this is an issue which awaits research in its own right. Suffice to say here that in theorising what it is that may make teletutoring motivating to exposed students, some or all of the foregoing variables may play a role as motivators in the process of initiating working and its maintenance. Some findings in this area of teletutoring research follow.

There has been a number of studies within distance education that have examined teletutoring in various forms (Flinck 1978; Rekkedal 1985 & 1989; Scales 1984; Sweet 1986). In general, it seems that the possibility of direct telephone contact with the teacher via a telephone is seen as motivating and helpful in the learning process of the individual student. There appears to be a positive relationship between student persistence and teletutoring (Rekkedal 1989, p.9.)

Some European workers have argued that student-initiated telephone calls are more important than teacher-initiated calls (e.g. Scales 1984; Stevenson, Sander & Naylor 1996). Others, including the Australian researchers Frew and Weber (1995, p.59.), however, found that a major weakness of teletutoring was a failure by teachers to initiate telephone contact with their students at various stages throughout their course.

Teacher-initiated telephone contact is more commonly referred to as 'faculty-initiated' within the literature. It infers that the teacher who initiates the call has relevant subject knowledge about the subject(s) in which the students are enrolled. Faculty-initiated telephone contact has been the focus of only a few major studies over the past 20 years, particularly in the Nordic countries of Sweden and Norway who have a considerable record in distance education research (Baath 1979; Blom 1986; Flinck 1978; Rekkedal 1982, 1989 & 1993).
A typical outcome of studies by these workers has been a positive response by the students who experienced telephone contact. They indicated that it encouraged them, however there was often no significant experimental (teletutored) and control (non-teletutored) between group differences (e.g. Flinck 1975; Rekkedal 1989). Problems did emerge, however, in the Rekkedal (1989) study as some 52 per cent of the experimental group was never able to be contacted by their tutors. Some other studies have achieved a more positive result, indicating that teletutoring may have some benefit in achieving greater student persistence rates (e.g. Scales 1984; Sweet 1986).

Unfortunately, in all of these studies on the effectiveness of teletutoring the form and organisation of the teletutoring procedure differed. What varied were variables such as who initiated the call (the student or the teacher), how many calls were made, who called the student (whether it was the teacher who marked the subjects/assignments or another teacher) and when the call was made (whether it was dependent on assignment submission).

Together with the conflicting results reported from European studies of teletutoring there is little published research evidence available in Australia on this topic: a topic of growing importance given the burgeoning increases in distance education in vocational education in Australia.

The present study, therefore, is an attempt to examine the problem of telephone tutoring using a range of persistence measures in the area of adult, vocational education in an Australian context. In this investigation, conventional study materials provided to vocational students studying a business course through the Open Training & Education Network (OTEN), New South Wales, were supplemented with teacher telephone tutoring. OTEN is the largest distance vocational education provider in Australia with student enrolment above 30,000 each year and approximately 750 staff. The predominant instructional form is correspondence education using ‘learners’ guides’ and study units of subject-matter content. Students submit assignments and receive written feedback, although a student can telephone a subject-area specialist at any time and when they wish to do so.
In order to evaluate the effects of teletutoring this research involved a more formal contact process. An experimental design was developed in which an experimental group of students received programmed telephone contact by one of the designated tutors. A control group of similar students received no systematic telephone contact. As well, following Rekkedal's (1989) European study, both students and tutor reactions and attitudes to programmed teletutoring were examined by means of questionnaire and interviews, respectively. Three hypotheses were postulated: First, that faculty-initiated teletutoring would increase the students' working and completion rates; second, that teletutoring would decrease the withdrawal rate; and third, that it would be more effective for students who enrolled later in the enrolment period. At OTEN, a 'working' student is one who has submitted at least one assignment in a subject within a course. A 'withdrawal' must be notified to OTEN in writing. A 'completion' occurs when a student completes all set assessments for a subject.

**Method**

**Sample**

Accounting was the course within the business area at OTEN chosen as the area of study. OTEN services 6000 students in this area. This course was chosen as it fulfilled a number of set criteria for selecting an appropriate course. First, it predominantly contained adult learners. Second, it was a highly frequented course that allowed a sufficient population from which to draw the samples. In 1998, 559 students were enrolled in the Certificate II in Accounting. Third, the course was the entry-level course into the field of Accounting and as such, allowed sufficient students within the population to have no recognition of prior learning (RPL) in the subjects to be examined. Finally, as this study covered one semester at OTEN, the course needed to have subjects that could feasibly be finished within the first semester. The study covered the first two subjects of the course: Accounting 1 and Commercial Computing, as it was thought reasonable these subjects could be finished within the scope of the study.
Students were chosen who had enrolled over the entire range of the enrolment period (i.e. November to March). This allowed the effect of students' study progress based on the various months of enrolment for both the experimental and control group to be monitored. Only students who were a new enrolment into the course at OTEN were chosen. This constraint, or so it was thought, would limit the influence of past experiences and attitudes to studying the course through distance education and to the student support provided.

To control for differences between the experimental and control group, all students selected had first, to be enrolled concurrently in the first two subjects (i.e. Accounting 1 and Commercial Computing). Hence, the students would be faced with the same number of assessment events and type of work required. Second, all chosen students had not submitted any assignments for either subject. This criterion should have eliminated any effect on the dependent variables caused by students who had already experienced feedback from teachers on their assignments, as well as the prior influence on motivation from assignments being submitted and returned with comments. Of the 559 students enrolled there were 159 students who fulfilled this criteria. These were included in the samples. Of these students, 80 were randomly allocated to the experimental group who experienced faculty-initiated telephone contact twice over one semester. The remaining 79 students were allocated to the control group. This process was completed for each of the six months of the chosen enrolment period.

The final number of students in the experimental and control groups differed slightly to the sample chosen at the beginning of the experiment for two reasons. First, students who lived overseas (n=5) were eliminated from the experimental group due to the excessive cost in teletutoring these students. Second, six students in the experimental group who never received teletutoring because the teacher was never able to contact them were transferred from the experimental group to the control group. These non-contactable students (n=6) were reallocated to the control group because they fulfilled the criteria for control group students who were not contacted at all. This left a total of 69 experimental and 85 control group students, respectively (N=154). Five teachers conducted the teletutoring to the experimental group students.
Data collection

The OTEN database, a computerised management system at OTEN, was utilised to provide all of the students' data required. This database gathers and records all student data.

Questionnaire

To establish and assess attitudes to teletutoring a postal questionnaire was developed. The questionnaire adapted from Rekkedal's (1989) study was sent to 144 students. The questionnaire was sent after the teachers had made their telephone calls to the students and after collection of the study-progress indicators. The design of the questionnaire allowed the same questionnaire to be sent to both the experimental and control groups.

The design of the questionnaire allowed the researchers to differentiate those students who were 'working' and those who were 'not working' in both groups, in order to establish if there were any differences in student perceptions. A range of questions, for instance, asked about the students' views on teletutoring, their preference for this means of communication, the degree of isolation experienced, whether teletutoring was thought to be useful and satisfying and the extent to which the experience was motivating as well as helpful.

Interviews

The five teachers involved with the teletutoring were interviewed to ascertain their perceptions of the trial and to determine their level of satisfaction with the procedure.

Procedure

A training session for the five teachers was undertaken first, introducing them to the structured teletutoring process to be followed and how to
record the information. It also included instruction on good telephone and motivational techniques. The teachers agreed to be involved in the study and it was part of their normal role to have contact with their allocated group of distance students. Training really only structured and defined the times and type of telephone contact to be initiated. The teachers were required to make two telephone calls to each of their allocated experimental group students six weeks apart. The teachers made follow-up calls if unsuccessful and recorded call details.

**Results**

**Student data**

The ‘working’ and ‘completion’ data for students in the experimental and control groups are shown in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Experimental group</th>
<th>Control group</th>
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<tbody>
<tr>
<td>'Working'</td>
<td>30 (46%)</td>
<td>31 (39%)</td>
</tr>
<tr>
<td>'Non-Working'</td>
<td>35 (54%)</td>
<td>48 (61%)</td>
</tr>
<tr>
<td>'Completion'</td>
<td>5 (8%)</td>
<td>8 (10%)</td>
</tr>
<tr>
<td>'Non-completion'</td>
<td>60 (92%)</td>
<td>71 (90%)</td>
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</table>

N= 144 n= 65 n= 79

Note that the data in Table 1 do not include ten students who notified withdrawal from the course during the study (see Table 2).

The results show that there was a slightly higher ‘working’ rate (in percentage terms) for those students who experienced teletutoring (see Table 1). Nevertheless, an X test applied to the frequency data obtained indicated that the group differences were not significant ($X^2=0.69; p>.05$; in all further tests of significance the critical alpha rate was determined at .05).

No significant difference was found between the frequency of ‘completion’ for students in the experimental group compared to the control group. These represented only 8 per cent (n=5) and 10 per cent
(n=8) of students in each group, respectively (X²=.25). ‘Completion’ is defined as a student finishing all requirements for a particular subject within the experiment’s timeframe.

Withdrawal rates, representing students who had notified OTEN of their withdrawal in writing, were also examined separately for both groups and are presented in Table 2. Very little difference was found between groups regarding notified withdrawal: 6 per cent, (n=4) for the experimental group and 7 per cent (n=6) for the control group. This difference, of course, was not significant (X²=.22).

<table>
<thead>
<tr>
<th>Table 2: Student ‘notified withdrawal’ data</th>
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<tr>
<td></td>
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<tr>
<td>'Withdrawal'</td>
</tr>
<tr>
<td>Experimental group</td>
</tr>
<tr>
<td>4</td>
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<tr>
<td>(6%)</td>
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<tr>
<td>Control group</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>(7%)</td>
</tr>
<tr>
<td>'Non-withdrawal'</td>
</tr>
<tr>
<td>Experimental group</td>
</tr>
<tr>
<td>65</td>
</tr>
<tr>
<td>(94%)</td>
</tr>
<tr>
<td>Control group</td>
</tr>
<tr>
<td>79</td>
</tr>
<tr>
<td>(93%)</td>
</tr>
<tr>
<td>N= 154</td>
</tr>
<tr>
<td>n= 69</td>
</tr>
<tr>
<td>n= 85</td>
</tr>
</tbody>
</table>

An analysis of the number of students who were deemed to be ‘working’ (i.e. submitted at least one assignment) in both the experimental and control group was undertaken based on month of enrolment. The results showed that for both groups ‘working’ rates were over 70 per cent but only for the last two months of the five month enrolment period considered. This result indicates that starting to work soon after enrolment may be a more important factor then teletutoring commencement for student continuation.

Questionnaire results

The majority of students found the experience of teletutoring a satisfying experience (94% of students were either ‘satisfied’ or ‘very satisfied’). The experimental group ‘working’ students found the experience more satisfying (100%) than the control group students (75%).

The experimental students, in general, agreed (75%) that the teletutoring had decreased their feeling of isolation while studying. Eighty-eight per cent of experimental students reported that telephone contact had motivated them during their studies. All of the ‘working’ students
believed it had motivated them; of the four 'non-working' students, only half believed this to be the case. A couple of qualitative comments in this area were: 'it helps to have someone pushing you along' and 'it makes me feel that I am not doing the course alone'.

Generally, the majority of qualitative comments were positive. For instance: 'After the teacher called I felt that it was okay to ring up and ask for help'. As the teacher explained: 'that's what they are there for' and 'I hadn't called the teachers for help before the teacher rang me. I found him so helpful that I thought that I could ring'. Another student wrote: 'I thought it was great that the teacher took time out to ring'.

Teacher interviews

In the interviews, the teachers expressed the view that the students who had been 'working' were enthusiastic about their calls. Those students who were still not-working felt it necessary to supply the reasons for their inactivity. The reasons did not alter from those given at the first call, with 'work' or 'being busy' high on the explanation list. The overall experience of teletutoring for the teachers was that it was just another aspect of their duties as a part-time teacher. They found it neither particularly stimulating nor the whole teletutoring experience motivating. Their work satisfaction was reported as not being affected by the teletutoring experience.

Discussion

The purpose of this study was to investigate the effect of faculty-initiated telephone contact on student persistence in correspondence of distance education. The experimental design used enabled the cause-effect relationship between teletutoring and several measures of student persistence (e.g. working rates) to be examined. Overall, the major conclusion was that, although on average, the students who experienced teletutoring reported that it had a positive impact on their studies and motivation, nevertheless, there were no significant between-group differences over the various measures of student persistence (e.g. working rates) examined. This was a case of where the student
perception, reported through a questionnaire, did not accord with the reality of obtained student behavioural performance.

In terms of the first hypothesis tested in this research, it was concluded that faculty-initiated teletutoring did not significantly increase either students’ working or their completion rates. Between-group differences for both of these measures were not statistically significant at the chosen alpha level. The raw data showed that students who experienced teletutoring achieved a slightly higher average ‘working’ rate (46% vs 39%) but quite importantly this difference did not carry over into the ‘completion’ rates, where there was only a small between-group percentage difference and in the opposite direction from that predicted. This difference was not statistically significant. As for the second hypothesis under test, there was found to be no significant difference between the experimental (teletutored) and the control group (non-teletutored) for notified student course withdrawals. The largest number of students who withdrew (based on the ten (6%) students who notified withdrawal) did not submit even one assignment throughout their enrolment. This reinforces the importance of getting students to attempt and submit their first assignment; a consequence of this action may be that the student is less likely to withdraw later.

The third hypothesis tested was that faculty-initiated teletutoring would be more effective for experimental group students who enrolled later in the enrolment period. Once again, in this experiment, there were no significant between-group differences for working or completion rates, based on whether the students enrolled early or later in the enrolment period. It was previously thought that there should have been a greater impact on working rates for those students who were exposed to the shortest time between enrolment and the first telephone contact. Nonetheless, this research tends to show that the time of enrolment—first telephone contact (within the five-month constraints of this study) was not a major variable in initiating ‘working’ students.

Another major question, examined by means of a questionnaire linked to the experimental data, concerned the attitudes of the students towards faculty-initiated teletutoring. Student attitudes towards faculty-initiated teletutoring were clearly positive, with students being in favour of this means of student support. More students (47%) preferred
to use the telephone to communicate with the teachers than other methods, such as written correspondence or fax. A large number of students (86%) believed that the two-way communication and support would reduce their feelings of social isolation.

Generally, the teletutoring experience had a perceived positive impact upon the students. They were satisfied with the telephone support they had received, finding it easy to talk to the teacher and believing that the teachers were interested in their study progress. The experience made the students feel less isolated while studying, motivating them and ultimately making it easier to undertake the course. The increased interaction of the teachers appeared to motivate the experimental group students, compared to the control students, to contact the teaching section over the telephone more frequently to clarify issues. The results showed that 75 per cent of students exposed to teletutoring took the initiative to telephone the teaching section at least once, compared to 37 per cent of control group students. This difference was statistically significant.

The teachers who were involved in the teletutoring were also interviewed to ascertain their views of the teletutoring process and the impact on their role satisfaction. Overall, they reported that the structured workload was not a burden but that the specific telephone process did require time-management skills (e.g. remembering to make the calls when due) beyond their usual application. These part-time teachers did not tend to find the experience particularly stimulating or motivating. They agreed that students contacted appreciated receiving the calls but that students not working tended to give reason(s) for their activity, which did not alter from the first to the second call.

The methodology used in this research was modelled on that used in Rekkedal’s (1989) study in this area. This allowed a comparison of the results obtained in this study with some of those obtained by Rekkedal, although for a different cultural group and context. In comparing Rekkedal’s (1989) study to the current study, it should be noted that there were some differences in the design of the experimental variables. In Rekkedal’s study the students received only one teacher-initiated telephone call after the submission of the first assignment. The remainder of the telephone communication was left to the student.
The results of this study concur with Rekkedal's study in relation to the student study perseverance variables. As in this study, Rekkedal's (1989) results revealed that there was a tendency for the students who received telephone tutoring to start working. However, similar to his study the differences were not statistically significant. The similarities continued in relation to the completion rates. Rekkedal's (1989) data showed that there were no statistical differences between rates of completion of students exposed to teletutoring and those who did not experience teletutoring. Comparisons based on withdrawal rates were not possible because of differences in the definition and measurement of this variable.

Rekkedal (1989) also developed a questionnaire to assess students' attitudes to teletutoring. Rekkedal's student questionnaire outcomes and the current research results show that students, regardless of whether they had experienced teletutoring or not, are in favour of the student support method and prefer the telephone as the medium for interacting with teachers, when compared to other forms of communication (e.g. written or faxed).

Generally, the answers from the students in the Rekkedal study who experienced teletutoring were positive, however, similar to this study, no statistically significant difference in attitudes between the experimental and control groups were observed. Rekkedal (1989) found the students felt that 'it has been easy to talk to their tutor(s) on the phone, that the conversations made them feel that the tutors were interested in their study success, that they have been encouraged by telephone conversations, that the experience has made them feel less isolated and that the telephone contacts have made it easier to cope with difficulties' (p.32). These positive experiences were reflected by some experimental students.

To determine the teachers' attitudes to the teletutoring program, Rekkedal (1989) carried out two informal interviews, once during the experimental period and another at its end. The interviews were held in a group setting with the four participating teachers (Rekkedal 1989, p.37). A similar method was used to ascertain teachers' opinions in this study. Rekkedal's teachers stated that the teletutoring had added a new dimension to their work as distance teachers. They agreed that the teletutoring had increased their motivation and they perceived that this
helped them to do a better job and make their other duties as distance teachers more interesting (Rekkedal 1989, p.38). These findings are in contrast to the attitudes of the part-time teachers in this study, who believed that structured teletutoring had not significantly impacted on their work motivation or satisfaction.

The teachers in Rekkedal’s (1989) study identified one major burden in teletutoring as the work and planning involved in repeatedly trying to reach the students by telephone (p.19). While this tended to be a problem for the teachers in this study on occasions, the major problem in undertaking the calls was prioritising the work within the gamut of other tasks of a distance education teacher.

In short, the results of the present study and those of Rekkedal’s (1989) study have indicated that teletutoring was not successful in improving the study progress and ultimate success of the distance education students. Of course, it is noted that these results may be less reflective of teletutoring as such and more indicative of the design of teletutoring in both the experiments and the limitations of the studies over their respective time frames. As well, in practice, the attitudes of part-time teachers in these studies may provide one possible reason for the non-significant results often obtained. A group of enthusiastic, well trained, effective communicators could, perhaps, make all the difference in teletutoring and the ‘teacher’ factor as well as the teletutoring process itself, are factors worthy of attention in future research in this area.

There appears to be little evidence available at present to indicate that teletutoring will influence students to begin working or complete their courses. Nevertheless, there is overwhelming support from students in favour of teletutoring so that the continued investigation of teletutoring as a student support mechanism in distance education appears to be justified.

In conclusion, the results of this study provided support for Rekkedal’s (1989) general research outcomes for a Nordic culture. This was despite the use of an Australian sample from quite a different culture as well as a different course and educational context. It was an interesting finding that the students’ perception in both places was that teletutoring was not only the preferred method of improving working rates but was
likely to increase these in practice. Despite this common student perception, in these two quite different physical and educational contexts, this was not the outcome of either study in terms of the students' actual behaviour.

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