

Examples of research and evaluation 1



Unit overview

In the first two units, you reflected on the definitions of learner support, what it means in your context, different types of research, and the steps involved in carrying out a research project. You also identified areas that you would like to investigate, and developed specific research questions and a research plan.

One of the ways to develop confidence in your research skills is to review studies carried out by others, looking carefully at the goals of the research, the methods used, whether the goals were met, and how the results are being used. In this unit, you will consider two examples of research addressing issues related to tutoring. The first one is an exploratory study and the second is an attempt to evaluate current practice.

In the next unit you will look at examples from needs assessment, setting priorities and evaluating a range of learner support services.

Learning outcomes

When you have worked through this unit, you should be able to:

- 1 Critically evaluate research and evaluation reports of tutoring and related areas of learner support practice.
- 2 Plan and implement appropriate investigations of tutoring and related areas of learner support practice.
- 3 Effectively carry through all steps of practitioner research and evaluation including disseminating findings, gathering feedback, engaging in discussion, and taking action to improve practice.

Understanding the learner: a qualitative study

Often practitioners like to test new strategies or evaluate current ones. Our daily work is in the foreground, and we constantly want to find better ways to assist our students in meeting their learning goals. Our practical knowledge gained from interacting with learners leads us to speculate about what might be an effective new way to reach out to them. However, sometimes it is appropriate to take a step back from this practitioner viewpoint and try to

capture a clearer sense of the learner's experience from the learner's point of view.

In the 1980's, I was working in student support at a distance education institution in Canada. It had an open admissions policy and served an adult population. The dropout rate was considerably higher than we wanted, and we were looking for ways to improve retention. Having a background in career planning, and having spoken to many potential and new students, I speculated that our students were coming to us mainly because they wanted to improve their career opportunities but were not clear on their goals. I further speculated that when study became difficult, their motivation was not sufficiently high to carry them through because they were not sure how the degree might help them with their career. Hence, I wanted to test a career planning programme to see if helping students clarify their goals early in their studies would improve retention rates.

As was recommended in the process outlined earlier in this handbook, I consulted with colleagues and with practitioners who had done research and I read what I could find on this topic. I realised that I did not know enough about our students or dropout and completion in distance education, nor was there enough information in the literature at that time for me to reach strong conclusions about the efficacy of any intervention strategy. Most studies I read were from an institutional perspective, using questionnaires based on assumptions about learner behaviour, and most all of them relied on data collected from students who had dropped out rather than comparing those who persisted with those who dropped out.

You will remember from the first unit, that it is sometimes necessary to conduct an exploratory study as a starting point with research. This can enable you to better understand and describe the phenomena that make up your area of research and identify specific issues for further study. Often a qualitative method is best for this purpose. After my initial investigation, I concluded that I needed to do an exploratory study to find out more about our learners and how they experienced being a distance education student before I could think about intervention strategies. I also concluded that in order to do this, I needed to talk to learners, using a method that would 'get inside' their experience early in their first distance education course before it was known who would dropout and who would continue.

Like many exploratory studies, the research project that I carried out required few resources other than my time, a telephone, and a small budget for long distance charges but it had a significant impact on my conceptualisation of the learner and my practice. What it did require was putting aside assumptions and beliefs acquired as a practitioner, and making an honest attempt to try to get inside the learner's experience (not as easy as it might sound). The advantage of this kind of research is that it opens up the opportunity to collect a rich set of data, unfettered by pre-determined variables and measurement instruments. However, the risk with this type of study is that

you will not know how to analyse or use the data unless you plan as carefully as you would with any other kind of research. One of the major challenges is to provide structure without inhibiting or biasing responses. You have to find ways to capture the learner's experience but do it in such a way that gives each participant in the study an equal opportunity to provide similar kinds of information without biasing them in a particular direction.

The following is a description of the study on dropout and completion that I carried out.

Case study



Using a critical incident technique to understand learner motivation

Research questions

The rationale for the study was to see how the data collected might inform planning for learner support in a distance education institution. Hence, the purpose of the study was to see if learners' self-reports of their experience could provide information that could be applied to the development of institutional strategies to reduce non-completion. There were three main questions to be answered:

- 1 What experiences do learners identify as being significant in hindering or facilitating completion of a distance education course?
- 2 Are the experiences of completers and non-completers different or similar in any way?
- 3 How can the self-reported experiences of distance learners contribute to the development of a model of attrition and retention strategies for distance learners?

Method

In order to collect the data that I wanted from students, I chose to use a tool called the 'critical incident technique' developed by John Flanagan (1954). It is an interview method for soliciting concrete incidents which facilitate or hinder some aim, in this case course completion. Forty students were chosen at random from a variety of subject areas and were interviewed about six weeks after starting their first distance education course, i.e. before it was known whether they would complete or dropout. The interview was designed to find out if each of them could identify significant and specific incidents which either facilitated or hindered their study. The interviewer took notes during the interview and audio-taped the conversations so that the notes could be checked for accuracy. Each incident that was identified by a student was recorded on an index card with the student's identity number, with hindering incidents on one colour and facilitating on another.

There were no preconceived categories of incident. Rather, common experiences were identified by me and I sorted the cards repeatedly until clear categories emerged (e.g. tutoring, support from family and friends, household move, job change, etc.) with both facilitating and hindering incidents present in most. Following my initial formation of categories, the cards were coded, mixed together, and then sorted by two independent raters to check the reliability of the categories. Finally,

at the end of the time available for course completion for the group interviewed, completers and non-completers were identified, and the two groups were compared according to the incidents they reported.

It should be noted that leading up to this study, research project planning steps such as those outlined in the previous unit were followed. For example, an extensive review of the literature was undertaken to gain an understanding of the current state of research on dropout and completion. In particular, factors that had been identified as associated with dropout and theoretical models of dropout were reviewed. Terms such as completion, non-completion, and critical incident were carefully defined. As well, a great deal of consultation took place among colleagues, and a small pilot study was done using the critical incident protocol to determine whether this was a suitable tool for purposes of the research.

Following the study, the characteristics of the students (gender, age, geographical location, past educational experience) interviewed were compared to the characteristics of the general population of students at the institution. It was discovered that the profiles matched. Further, the dropout rate was very similar between the group interviewed and the larger population (approx. 60%).

Findings

Only the major findings will be reported here. First of all, the 40 students in the study reported a total of 265 incidents, 113 facilitating and 152 hindering. The average number of incidents reported per student was 6.6. One student reported that nothing had hindered his progress while two students could identify no facilitating incidents. Out of the group of 40 students, 15 completed their courses. Although the total number of incidents reported by each of the two groups, (completers and non-completers) was consistent with their size (i.e., completers made up 38% of the group and reported 41% of the incidents), there was a difference in participation rates within particular categories of incidents that distinguished the two groups. Further, there were differences between the two groups with regard to the ratio of hindering to facilitating incidents in particular categories.

Hence, with regard to the three research questions posed, the following was revealed:

- The students sampled were able to identify significant specific experiences which either hindered or facilitated their progress in distance education studies.
- Similarities and differences were found between completers and non-completers.
- Factors identified by students in the study as being significant in their impact on persistence or withdrawal can contribute to the development of an explanatory model of attrition for distance education students, to planning and evaluating retention strategies, and to formulating future attrition research.

Using the sorting method described above, 13 categories emerged from the 265 reported incidents:

- 1 **Student interaction with the institution:** excludes the student's instructional contact (with the tutor), but includes all other contact by telephone, mail/print, or in person.

- 2 **Personalised instructional support:** tutoring support (interaction) that includes instruction on course content, feedback on assignments, guidance in approach to learning, and encouragement.
- 3 **Discovery about the course/support materials/approach:** includes incidents where students discovered something about the course, their approach to it, or support materials which made a difference to them.
- 4 **Pre-course preparation/prior expectations:** includes those incidents that happened before the student started the course or are related to expectations held before the course began (e.g. pre-existing thoughts about ability; intentional preparatory work such as study skills improvement).
- 5 **Encouragement/support from source outside of the institution:** includes interaction with friends, family, colleagues, and employers.
- 6 **Deadlines and schedules:** this includes deadlines and schedules imposed by the student, their circumstances, or by the institution.
- 7 **Personal realization:** includes incidents that took place after the course started when students realised something about themselves such as their ability, their progress in the course, their approach to learning, or feelings about the course.
- 8 **Thoughts about longer term goals:** includes incidents where students thought about how the course related to their longer term goals, usually career or educational.
- 9 **Marks received:** includes incidents where the marks received in the course had a direct effect on the way the student felt about doing the course. Although no students in this study reported hindering incidents, students in other dropout studies have reported negative effects from marks received.
- 10 **Change in time available/personal circumstances:** this is the category with the greatest participation rate, and includes all those incidents where students report that something in their life changed which made a difference to the amount of time spent on their course (e.g. illness, vacation, work changes, death of a relative, season changes, and move of a residence).
- 11 **Course content:** includes those incidents which students attributed directly to the subject matter of the course as opposed to the design (e.g. whether the course is interesting).
- 12 **Course design:** includes those incidents that students attribute directly to an element in the design of the course (e.g. instructions given, layout or organisation, support materials, examinations).
- 13 **Practical application of learning:** includes incidents where students reported being able (or not) to relate the course to their experience. It facilitated them in their studies if they could see practical application but hindered them if they could not or if they saw the learning as redundant and therefore, not useful or practical.

All but one of these categories had both hindering and facilitating incidents. The inter-rater reliability of the identification of categories was very high (over 90%), and the participation rate in each of the categories was sufficiently strong to justify keeping all 13. The highest participation rate was in the category of *Change in time available or personal circumstances* (80% of students, 56 incidents) and the lowest participation rate was in the category of *Thoughts about longer term goals* (10% of students, 5 incidents). All other categories had between 20% and 63% participation rates.

The participation rates are partly a reflection of the relative importance attached to each category and for these reasons, it is important to compare completers and non-completers on this dimension. Table 2 compares completers to non-completers in terms of participation rates for each category:

Table 2 Comparison of completers and non-completers on participation rates in all categories of incidents

	Completers (15 = 38%) % of completers reporting incidents (out of 15)	Non-completers (25 = 62%) % of non-completers reporting incidents (out of 25)	Total of incidents in each category
1 Student Interaction with the Institution*	6% (1)	28% (7)	8
2 Personalised instructional support	47% (7)	52% (13)	20
3 Discovery about the course*	53% (8)	36% (9)	17
4 Pre-course preparation/ prior expectations*	27% (4)	40% (10)	14
5 Encouragement/ support from outside the institution*	60% (9)	32% (8)	17
6 Deadlines and schedules*	40% (6)	16% (4)	10
7 Personal realization*	53% (8)	68% (17)	25
8 Thoughts about longer term goal	6% (1)	12% (3)	4
9 Marks received*	33% (5)	12% (3)	8
10 Change in time available/ circumstances	87% (13)	76% (12)	32
11 Course content	20% (3)	24% (6)	9
12 Course design*	60% (9)	24% (6)	15
13 Practical application of learning	20% (3)	20% (5)	8

Notes:

- 1 The number in brackets is actual number of incidents reported in category.
- 2 •See below.

Differences between completers and non-completers

There were notable differences in the participation rate between completers and persisters in 8 of the 13 categories (shown by an asterisk* in Table 2). In order from greatest to least difference in participation these were:

- 1 course design (60% completers; 24% non-completers)
- 2 encouragement/ support from source outside of the institution (60% completers; 32% non-completers)
- 3 deadlines and schedules (40% completers; 16% non-completers)
- 4 student interaction with the institution (6% completers; 28% non-completers)
- 5 marks received (33% completers; 12% non-completers)
- 6 discovery about the course/support materials/approach (53% completers; 36% non-completers)
- 7 personal realization (53% completers; 68% non-completers)
- 8 pre-course preparation/prior expectations (27% completers; 40% non-completers)

The second way in which the completers and non-completers were compared was on the ratio of facilitating to hindering incidents in each category. The results are summarised in the Table 3:

Table 3 Comparison of ratios between facilitating and hindering incidents in all categories for completers and non-completers

	Completers		Non-completers	
	Facilitating incidents (n)	Hindering incidents (n)	Facilitating incidents (n)	Hindering incidents (n)
1 Student Interaction with the Institution	0	1	6	3
2 Personalised instructional support	5	3	10	9
3 Discovery about the course*	7	6	2	12
4 Pre-course preparation/ prior expectations*	2	3	3	10
5 Encouragement/ support from outside the institution	10	1	10	1
6 Deadlines and schedules*	7	1	3	2
7 Personal realization	6	7	10	14
8 Thoughts about longer term goals	0	1	2	2
9 Marks received	5	0	4	0
10 Change in time available/ circumstance	2	23	2	29
11 Course content	2	1	5	4
12 Course design*	2	10	3	5
13 Practical application of learning	2	1	3	3
TOTALS	50	58	63	94

As is apparent, notable differences (*) are present in only four categories:

- discovery about the course/support materials/approach** (non-completers had a much higher ratio of hindering to facilitating incidents than completers)
- course design** (completers had a much higher ratio of hindering to facilitating incidents than non-completers)
- pre-course preparation/prior expectations** (non-completers had higher ratio of hindering to facilitating incidents than completers)
- deadlines and schedules** (completers had a higher ratio of facilitating to hindering incidents than non-completers).

The similarities between completers and non-completers are of equal interest as the differences. For example, it is of note that the kind of incidents which held the non-completers back also hindered the completers. Apparently, the completers responded differently than the non-completers to these challenges. Of particular interest is the category *change in time available or circumstances*. Throughout the distance education literature, this is cited as the reason most often provided by dropouts when interviewed post study. However, these results reveal that the persisters experienced just as many instances of this type of hindrance as the non-completers.

Activity 1 90 mins**Interpreting and discussing results**

Take some time to read over the research study results reported here, and reflect on what is of significance and what might be useful information. Consider the research questions and the original purpose of the study.

Then answer the following questions about the findings:

- 1 Did you learn anything new from the study? Was there anything that surprised you?
- 2 How do the outcomes relate to the purpose of the study?
- 3 Which of the findings can be related to possible action for tutors?
- 4 What recommendations would you make with regard to tutoring?
- 5 Can you see application of these findings in your context?

You should be able to do this in five or fewer pages.

The feedback to this activity is at the end of the unit ►

Evaluating current practice

Evaluation, as noted earlier, is a form of applied research, and usually the most common kind of research carried out by practitioners. Thorpe (1988) provides the following definition:

'Evaluation is the collection, analysis and interpretation of information about any aspect of a programme of education and training, as part of a recognised process of judging its effectiveness, its efficiency and any other outcomes it may have.'

Evaluation is carried out for a variety of reasons but is most often used by learner support practitioners to make decisions about changes and improvements to services in order to meet stated goals.

Study tip

Read research studies critically and discuss them with colleagues. Consider not just the soundness of the methodology and conclusions but whether there is anything that can be applied in your context or can build your knowledge in your area of practice.

Institutions generally view evaluation as a necessary practice in ensuring organisational effectiveness by systematically identifying areas or practices requiring change. Calder outlines seven stages of evaluation:

- 1 Identify an area of concern

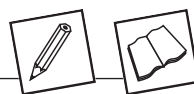
- 2 Decide whether to proceed
- 3 Investigate identified issues
- 4 Analyse findings
- 5 Disseminate findings and recommendations
- 6 Review the response to the findings and recommendations and agree on any corrective actions
- 7 Implement agreed actions

(Calder, 1994, p. 16)

In this section, you will consider an investigation into practice, *The Will to Learn: Counsellors' Perceptions of Academic Counselling* carried out at Indira Gandhi National Open University in 2001. The area of practice identified for examination by this study was 'the impact of the two day orientation programme on the PGDDE academic counsellors', specifically to collect 'empirical evidence to influence the policy makers ... with a view to improving the conduct and organisation of academic counselling and assignment evaluation' (p. 8, Statement of Problem). The functions included within academic counselling as defined in this study are parallel to those included in the definition of tutoring used in this course. Essentially, the study defines academic counsellors as those staff who help students adjust to distance learning, overcome learning difficulties, and achieve satisfactory academic standards. They do this through attending to both learner-focused issues, and course- or content-focused issues. Academic counsellors in the study make instructional interventions, provide encouragement, and give feedback on progress through practices such as written comments on assignments.

The report on the study identifies the original intent of the investigation, the objectives, the methodology, and states the findings. Some recommendations for practice are made at the end of the report.

Activity 2 120 mins



Critically examining an evaluation study

You will need the resource *Srivastava* from the *Resources File* for this activity.

Read the report. The answer the following questions:

- 1 How well do the aims and objectives of the study match the statement of the problem?
- 2 Is the methodology clearly stated? Could the study be replicated easily?
- 3 Is the methodology well chosen in terms of meeting the objectives of the study? What other measures might you have wanted to use to address the problem statement? What

suggestions, if any, would you make for improvement of the investigation in terms of what data is collected and from whom?

- 4 How do the findings relate back to the statement of problem and objectives of the study?
- 5 How might a review of the literature better inform this study? How could the researchers ensure that aspects of tutor orientation and training that have already been identified in the literature as critical were not overlooked? (e.g. What are the aspects of tutoring orientation and training that have been identified as critical? What tutoring practices have been identified as having a significant impact on learner motivation?)
- 6 How well does the summary capture not just the findings, but the meaning of the findings? What might you do differently in a discussion of the findings from this study?
- 7 Would you make any additional recommendations based on the findings of the study, and if so what would these be?

The feedback to this activity is at the end of the unit ►

Further reading

The readings *Calder* and *Thorpe* will provide you with an excellent introduction to evaluation of open and distance learning practices, as well as specifically looking at illustrations and examples from evaluation of tutoring practice. You will find both in the *Resources File*. Their full reference is as follows:

Thorpe, M. 1988 'Tuition' in M. Thorpe *Evaluating Open and Distance Learning*, Harlow, UK: Longman Group (extract pp 61-87)

Calder, J. 1994 'The nature of evaluation' in J. Calder *Programme evaluation and quality: a comprehensive guide to setting up an evaluation system*, London: Kogan Page (extract 15-20)

Study tip



As you read reports of research and evaluation studies, consider the cost/benefit. How much was invested in actually planning and carrying out the investigation, and how much did the organisation benefit? The ultimate measure of this is not necessarily institutional change, but that the study was widely read, considered, and that decisions were better informed (including decisions not to change practice).

Unit summary

In this unit, you read, critically evaluated, and discussed two different research studies which were intended to improve the practice of tutoring. The first was an exploratory study designed to more fully understand the nature of the

learner's experience and the second was intended to produce findings that would help improve academic counselling practices through evaluating the impact of tutor orientation. Both produced findings that could have a potential impact on tutoring. In order for the findings to be used effectively, they must first be analysed, that is, organised in a form that helps us answer specific questions, and interpreted, that is, made meaningful in terms of the problems being examined. If we return to Calder's (1994) steps in evaluation, the full benefit of the findings will be realised only if we fully analyse and interpret the data, make recommendations, and then disseminate a report of these, get feedback, engage in discussion, and finally, take appropriate action.

Project task



Maximizing the usefulness of a study

After you have completed the readings for this unit (*Calder* and *Thorpe* readings):

- 1 Review your responses to the questions in the last activity regarding the IGNOU study.
- 2 Review the findings from the IGNOU study.
- 3 Analyse the findings by organizing them in a way that makes sense to you in terms of the original statement of problem, that is, the impact of the academic counsellor orientation on practice. (Tip: Ask yourself which findings relate to one another and try grouping these together.)
- 4 Write a discussion of the findings that highlights the most significant information.
- 5 Write a list of specific recommendations for action based on your analysis and discussion, including recommendations for future research.

References

Calder, J. 1994 *Programme evaluation and quality: a comprehensive guide to setting up an evaluation system*, London: Kogan

Srivastava, M 2001 *The will to learn ... counsellors' perceptions of academic counselling*, report for Staff Training and Research Institute of Distance Education (STRIDE), New Delhi: Indira Gandhi National Open University

Thorpe, M. 1988 *Evaluating open and distance learning*, Harlow: Longman

Feedback to selected activities



Feedback to Activity 1

I learned some new information about students' experience in distance education from doing this study. Most striking to me, was the similarity between completers and non-completers with regard to the number of

Change in circumstances or time available incidents encountered during the duration of their course – it was not just dropouts who experienced these. It struck me that perhaps institutions give far more credence to this reason for dropout than is warranted, and in a sense, this lets them off the hook—because this category of incidents is something that the institution can do little to change. However, the results from this study indicate that completers experience just as many incidents of change as dropouts but somehow manage to cope with them and continue their studies. This finding fits with a model of dropout that considers the interplay among a variety of variables that all contribute to a decision to persist or leave. For example, perhaps the completers who reported that they had experienced hindering life circumstances had better support at home and/or were better academically prepared than those who dropped out. Hence, one recommendation might be that institutions consider ways to help new distance learners to more effectively prepare for and cope with life changes that occur during the course of their studies.

With regard to tutoring, the results from the study revealed that instructional support is a key factor in persistence, but that it can be for better or worse. In other words, tutoring can be experienced as hindering or facilitating course completion depending upon the nature of the interaction between tutor and learner. In this study, hindering incidents in the *Personalised instructional support* category included experiences where the learner perceived the tutor as disinterested, critical in a disparaging or discouraging way, or not helpful in response to questions. This finding has important implications for tutor training and quality monitoring. Tutors training can help tutors understand the critical role they play in student retention, and to acquire the skills that they need both to assist learners with content and encourage them toward their goals.

Other findings from the study can inform the tutor role and tutor training. For example, it appears that many distance learners find out about the unique demands of distance study and their ability to meet these too late into their first course. The categories of incident that speak to this include *Discovery about the course*, *Pre-course preparation/prior expectations*, and *Personal realization*. Tutors can play a key role in helping learners make needed adjustments to distance study and start to build independent learning skills early in their first course. In the distance education literature, the term 'scaffolding' is used to describe the step-by-step process of helping learners develop the full set of learning skills they need in order to be successful in their studies. Tutors can also discuss with learners issues such as how to obtain better family and employer support for their studies and how to cope with change.

The results from the study obviously have implications for other forms of learners support such as information for prospective students and orientation programmes. However, for the purposes of this unit, the tutoring role is the focus.

Feedback to Activity 2

My first reaction after reading this study was that a great deal of work was invested in gathering data and that some interesting and potentially very useful findings were obtained. However, despite producing a broad spectrum of findings about academic counsellor attitudes and practices, the report contained minimal discussion and recommendations for action that could inform the original intent of study. The summary tends to be a repetition of the findings rather than an analysis and interpretation of them, and the recommendations are sparse. For the most part, the conclusions represent good practice that could be identified without the help of the study. The report would benefit from a more meaningful discussion of the findings, and the addition of concrete recommendations clearly linked back to the purpose of the study and flowing logically from the interpretation of the results.

The problem statement for this study identified the area of concern as the effectiveness of orientation of academic counsellors, and linked this to a desire to improve practice. This implies that this will be an evaluation study that will clearly address the aims of the current orientation programme and whether these are being met as measured by effectiveness of practice. This type of evaluation study requires the collection of formative and/or summative data about the process and impact of the orientation programme. However, if you look at the objectives of the study, you will see that clear and logical links are not made from the statement of the problem (effectiveness of orientation of tutors and the impact on practice) to the aims and objectives of the study and the methodology. Hence, the data collected does not directly address the original area of concern. A strong interpretation and discussion of the findings might have been able to accomplish this but the links between the findings and the original intent are also unclear. For example, a finding of note from the study is that the main way that academic counsellors think they can improve attendance at face-to-face session is to make them compulsory – as opposed to changing the nature of the sessions to improve learner motivation toward attendance. This says a great deal about how they view their role and what practices they see as being effective for increasing learner motivation. What we do not know is how this relates to the effectiveness of the tutor orientation and training, which was the stated reason for carrying out the study. As discussed previously, it is important to consider the best sources and methods of collecting data in the context of the goals of the study. What will give you the best information with which to answer your questions and make decisions? If you are evaluating for effectiveness, how do you measure this and what data do you need?

Another way in which this evaluation could have been improved is if previous studies were reviewed to inform the researchers about critical aspects of tutor training and practice to examine. The literature has identified tutors as an essential point of contact for the learner; and it has been established that their interactions with learners can make the difference between dropout and completion. In particular, the timeliness and degree of helpfulness of feedback

on assignments have been identified as factors in persistence, and these are issues of practice which can be directly addressed in a tutor orientation programme.

If the purpose of evaluation is first and foremost, institutional effectiveness, then we should be able to see how the study has contributed to that.
