

Aberystwyth University
Department of Information Studies

IL/DS31530 Dissertation

Research proposal to investigate

‘EVALUATING THE EVALUATION’

A study using mixed-methods with a naturalistic approach

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Abstract

Studies show that training programs such as the ‘evaluand’ to use Scriven's, 1980 term, in this study generally improve literature searching skills, “facilitating the integration of research evidence into clinical decision making” Perrier et al (2014, pg 1118). It is necessary that to improve health literacy health information and services are provided in ways that meet the needs of the individual. According to Perrier et al (2014, pg 1118) “access to librarians and libraries is essential” in providing support for health and medical researchers, therefore it is important that training programmes are closely reviewed. By evaluating the ‘evaluand’ (Information Skills Training Session) we gain insight in to whether participants after training retain learning and whether they use resources and search techniques demonstrated, furthermore to question whether the training has had an impact on their studies and subsequently explore the theory of whether respondents give more in depth response’s to interviewing through semi-structured questions compared to a two part post and several weeks later questionnaire.

The proposal targeted sixteen undergraduate service users which represent 100% of the cohort, the demographic characteristics represent 87.5% (14) female and 12.5% (2) male and the study took place within an academic setting.

The research was conducted using mixed methods using a naturalistic approach, initially evaluated using a questionnaire based on Kirkpatrick’s (2006) evaluation model. The second stage involved evaluating the ‘evaluand’ by qualitative interviewing using semi-structured questions. Only by using multi-methods within this study can results from the questionnaires confirm the results from the interviews and on analysis this *may* lead to different conclusions.

Results indicated that the quantitative data did record that learning took place and was transferred; however the information didn't give great detail. However from the qualitative data not only give more detail suggesting that learning took place and was transferred, yet more themes emerged such as requests for 'refresher sessions', shorter and smaller groups and a preferable environment of a classroom setting using their own laptops.

In a perfect world of evaluation, interviewing respondents using semi-structured open ended questions gives the best form of qualitative data and this is evident in the results of this study. However according to Patton (1990, pg 24) this has limitations and barriers for the respondents such as lack of, effort and time constraints. Taking these barriers in to consideration it may be concluded that as evaluators we need to at least look at making sure our feedback forms, 'happy sheets', are not just a tick box exercise but allow for more open answers to be given because generally feedback questionnaires provide more statistical generalized and standardised data, as the majority of questions are close-ended.

Contents

Introduction.....	5
Aim.....	7
Literature Review.....	8
Aims of the review.....	8
Search Strategy.....	9
Evaluation of the Literature.....	10
Research Methodology.....	19
Research Design.....	20
Setting & Sample.....	24
Methods & Instruments used.....	25
Data analysis/results.....	25
Limitations.....	32
Conclusion.....	33
References.....	35
Appendices.....	40
Appendix 1 Current feedback ‘happy sheet’	40
Appendix 2 Two part post & several weeks later questionnaire.....	41
Appendix 3 Search terms used to locate studies.....	45
Appendix 4 Interview questions.....	46
Appendix 5 Interview opening statement.....	47
Appendix 6 Consent form.....	48

Introduction

Historically, according to Stufflebeam (2001, pg 8) the 1960's saw the explosion of the "expansion and development of evaluation theory and practice". This was influenced through the United States efforts to strengthen their defence system. Following on from this the 1990's saw worldwide organisations "employ evaluation to ensure quality, competitiveness and equity in delivering services" (Stufflebeam, 2001, pg 8).

The outcomes of evaluation maybe considered detrimental, insignificant, or valuable, or in some cases all of these at once, in addition evaluation has the potential to be useful to individuals and institutions. It follows, then, that the way evaluation is perceived, presented, implemented and achieved must be thought through carefully. It is generally interpreted that to judge the effectiveness of anything from resources, services to training programs we are in essence engaged in evaluation. According to Nevo (1983) a joint committee on standards for evaluation which comprised of 17 members representing 12 organizations associated with educational evaluation, recently published their definition of evaluation as "the systematic investigation of the worth or merit of some object" (Joint Committee,1981, pg 12).

Alternatively take Nevo's (1983, pg 118) own non-judgemental definition of evaluation, such as "providing information for decision making". On the other hand Trochim (2006, pg 1) claims the most frequently given definition of evaluation is "the systematic assessment of the worth or merit of some object". Conversely not all evaluations measure the worth or merit and may only be utilised to glean information and feedback from the evaluand, therefore following this definition would be more apt "evaluation is the systematic acquisition and assessment of information to provide useful feedback about some object" (Trochim, 2006, pg 1). An evaluation is usually commissioned by individuals or groups and in spite of

different definitions it is clear from these observations that the goal of any evaluation is to produce information that will consequently influence and aid decision making through experiential feedback in one aspect or another. There are many reasons why an organisation needs to assess, such as to guide improvement, to provide statistics for internal and external agencies, to indicate standards and provide performance indicators. However, the aim of this research project is to evaluate training and measure impact, because the evaluation sheets 'happy sheets' (appendix 1) used to gather information presently appear inadequate.

Participants fill in the feedback sheets and remark on catering, facilities, enjoyment of the course or program how the facilities measure up. Arguably the focus should be more about the effectiveness of training and to measure changes in behavioural skills or attitude changes as a consequence of the training. Specifically this research attempts to gain insight in to whether participants after training retain learning, whether they use resources and search techniques shown, and to question whether the training has had an effect on their studies. This research questions whether the students have used the knowledge and skills learned during the session to support research activities, that would evidence that training delivered is effective. This depth of information is presently not gathered from traditional 'happy sheets' or feedback forms that is handed out at the end of each training session. The information from 'happy sheet' evaluation is equivalent to the grading on Kirkpatrick's model as level one reaction.

In an ideal world consumer satisfaction should always be strived for, although realistically this may not be attainable. Nevertheless one should expect that providing good service is always the aim and should be a priority. Expectations are high and although benchmarking and service specific, measurable, achievable, realistic and time-based (SMART) objectives (Drucker, 2007) have always been common practice, it is now imperative within services (due to the fiscal climate and other constraints) to look at and evaluate current procedures and

practices in place and make changes if these are inadequate. Examples of methods used to examine current practices, such as a SWOT analysis to will look at the organisations inefficiencies, environmental scanning which allows managers to strategically make changes the organisation needs will indicate where it is appropriate to create or maintain current practice. These inefficiencies and decisions to make strategic changes within the organisations may have been highlighted from evaluations. Evaluations will likely bring about change, and such changes should be executed and managed carefully, approached in a structured way ensuring that changes are thoroughly and smoothly implemented, and that the lasting benefits of change are achieved. Each change initiative will have its own unique set of objectives and activities, all of which must be coordinated. As a result the change will impact on the whole organisation and every stakeholder involved with it, Kotter, (1996). It's sensible to react and work to make pro-active changes earlier on, rather than having to take a re-active approach which can lead to vastly different outcomes which may not necessarily be for the better.

Aim

Usually training is evaluated by using questionnaires 'happy sheets'. These happy sheets focus upon the facilities and tutor training techniques. A significant limitation of using such evaluation methods is that the impact of the training session on the perceived value for students using library resources is not measured.

The aim of this paper therefore is to evaluate the perceived value of undertaking the training, first by using a Kirkpatrick based two part post and several weeks later questionnaire (appendix 2) to measure the impact on learning. Instinctively it would appear logical to claim that the interview with students might glean more in-depth and appropriate perceived value of

the training. This paper will evaluate the differences between the two types of evaluation, Kirkpatrick evaluation sheets and interviews using semi-structured questions.

Literature review

A literature review summarises, analyses and evaluates the existing evidence pertaining to a particular topic (Aveyard, 2010). This enables contextualisation of the research problem in relation to the existing knowledge base, and may assist the researcher to channel aims into a defined research question by identifying an area which requires further exploration or clarification (Hewitt-Taylor, 2011). “Evaluation is a field that has attracted both diligent, original research and extensive re-working of previous findings” (Bryant, 2004, pg 84).

Aims of the review

The aim of this review is to introduce the subject literature, bringing to the fore those works that might be considered to have most bearing on present needs and future progress; such a review *may* show gaps in existing research. Thus, areas wherein future studies *may* be of benefit to evaluators are discussed briefly.

Existing systematic reviews by Brettle, Garg & Turtle (2007; 2003) concluded that there is limited evidence in the literature regarding the effectiveness of training and also a lack of validated measures. Consequently this review is not a comprehensive guide to the literature on evaluating effectiveness of training or evaluations as a whole. Instead, it is intended to ‘signpost’ readers to key studies and works that make a significant contribution to the understanding of types of information that may help to guide and select tools to evaluate the impact of librarianship practice. “Additionally it could be used to further ideas and methods and measures for evaluating information skills training” (Brettle, 2007, pg 26).

Literature search strategy

A literature search was conducted in order to identify key themes concerning evaluating and evaluations. Using the PICO model: (patient problem or population (P); intervention (I); comparison (C); and, outcome(s) (O) (Richardson, 1995), helped to focus the research question. A search strategy grid was also used to divide the research question into manageable sections, whilst identifying alternative, similar terminology, variant spellings and keywords pertaining to the research proposal. Searches on terms relating to “evaluation”, “evaluating”, “evaluating methods”, “Kirkpatrick” and “information skills training” using Boolean Logic (see appendix 3) were carried out on resources such as the Library Online Public Access Catalogue (OPAC) system, Library and Information Science Abstracts (LISA), Google Scholar, Cumulative Index to Nursing and Allied Health Literature (CINAHL), British Nursing Index (BNI) and also Wiley Online Library. Several articles were found by reviewing the reference lists of useful studies to identify other relevant articles using the ‘Berry picking’ non-linear information seeking model (Bates, 1989). This proved helpful in identifying references not revealed by the initial online searches

A systematic approach of combining free-text searching and subject heading searches appropriate to each database were used in conjunction with Boolean operators. Several constraints were encountered whilst searching for literature due to not all literature being available full text even when using two passwords, one from the university and also using a work institutional password. The library interlibrary loan service was used to retrieve any unavailable full text papers. Resources were limited to English language only, however the literature search sourced texts in a range of languages. A publication date or publication type

filter did not need to be applied in the search as research has been ongoing in this subject field since the early 1950's. All relevant citations were screened by title and abstract to determine the inclusion in this research.

Evaluation of the Literature

The literature review indicated that there were three dominant themes or alternatively sub-groups of literature within the spectrum of evaluation, which includes 'Kirkpatrick', 'Naturalistic Enquiry/evaluation models' and 'Evaluation Culture'.

Academics, institutions and organisations agree the importance of evaluating, although evaluation theorists differ in their approach to using different evaluating pattern, model or paradigms. Whilst there are research papers pertaining to varying approaches of evaluation, according to Williams (1986, pg 1) "more and more evaluators have begun to explore the naturalistic approach".

Kirkpatrick

The two part post and several weeks later questionnaire used within this research (see appendix 2) has been adapted from the original which was developed by the LIHNN (Libraries in Health North West Network) trainers group. The questionnaires are based on the Kirkpatrick model of evaluation and evaluate training and measure impact. According to LIHNN (2015), trainers often use the Kirkpatrick model to help them evaluate training on different levels, although Newstrom (1995, pg 319) questions the model through seeking to confirm "whether the model was intended to be four separate levels and approaches to evaluation, or a hierarchy of progressive levels". The 'Kirkpatrick Four-Level Training Evaluation Model' helps trainers to measure the effectiveness of their training in an objective

way. The model was originally created by Donald Kirkpatrick in 1959, and has since gone through several updates and revisions. Newstrom (1995) informs us that Kirkpatrick originally introduced the model through a series of articles, seminars and conference presentations before writing his first book in 1994 entitled 'Evaluating Training Programs: The Four Levels' (Newstrom, 1995). Although there are other evaluation models to choose from such as Kaufman's '5 Levels of Evaluation' and those cited by Kaufman & Keller, (1994, pg 372) as "others, such as Warr, Bird and Rackham have proposed similar four-level approaches, although Kirkpatrick's is known best". Trainers seem to be drawn towards Kirkpatrick's model which may be due to the fact that it has been available for so long or possibly because it is the most commonly used model that "comes with some "name recognition" – and clients like that" (Ferrimen, 2013).

According to Ayre et al (2014) information literacy skills involve three elements, the knowledge of how to use information, the physical skills to access it and the changed attitudes to information. These are associated with what Bloom identified as the "three domains of learning: cognitive, psychomotor and affective" (Ayre et al, 2014, pg 2).

Furthermore Ayre suggests that the latter 'affective' is associated with developing the skills of 'evidence-based practice'. This may suggest why the Kirkpatrick model is also the recommended model of use for NHS Trusts by the Audit Commission to "evaluate evidence-based medicine teaching and learning" (Ayre, 2014, pg 3). Although to know that the student is learning from the method of teaching implemented, it needs appropriate assessment and feedback.

Traditional happy sheets could be interpreted as satisfaction surveys and according to Ayre et al (2014, pg 2) "there is a temptation for a learner to please the teacher", therefore lacking objectivity; arguably however Kirkpatrick's model limits the problem of objectivity. Despite the popularity of Kirkpatrick's Four-Level Training Evaluation Model it does have

limitations. For example, according to MindTools (2015) Kirkpatrick's model can be expensive, time-consuming and not effective in all evaluation situations and level 4 (results) is sometimes difficult to measure because there are other variables to take into consideration that may not be a direct result from training. Stokking (1996, pg 179) has a similar view, claiming that "Evaluation on the last two levels, level 3 (behaviour) and level 4 (results) is notoriously difficult because of the fact that training is not the only relevant casual factor". Similarly there are others such as Kaufman & Keller (1994) and Phillips, (2003) who claim that Kirkpatrick's Four-Level Training Evaluation Model is incomplete or 'flawed'. Holton (1996, pg 1) proposed a new model that would account for variables such as "motivation to learn, trainability, job attitudes, personal characteristics and transfer of training conditions". Kaufman & Keller (1994) believe the Kirkpatrick model focuses too heavily on training, thus suggesting a level-five evaluation framework; a 'Kirkpatrick-plus' to incorporate other performance improvement interventions such as strategic planning and mentoring among others. Similarly, Phillips (2003) suggests that there should be a level-five evaluation framework, although his reasoning differs from Kaufman & Keller (1994). Phillips (2003) variables relate to 'Return of Investment' (ROI) and suggests that Kirkpatrick's model does not focus on the monetary benefits of training, thus there was a need to demonstrate cost value and accountability for training. ROI answers the question, for every dollar invested in training, how many dollars does the employer get back? (Phillips, 2003).

The limitations of Kirkpatrick's Four-Level Training Evaluation Model have been taken in to consideration when developing the research methodology, and as such within this research the evaluation questionnaire will only address the first three levels Reaction, Learning and Behaviour. It will be difficult to measure the outcomes of level four 'Results' due to the participant's stage in their career as they are not yet employed by the organisation, in addition to the time constraints of this project. In addition, and significantly, Lambert's (2011, pg 2)

perspective cannot be ignored: that not executing all of the levels of Kirkpatrick's model quantifies to an incomplete evaluation, consequently providing "poor evaluative data". It is also important to note for example Lambert (2002, pg 2) suggests that level four of Kirkpatrick's evaluation model is "nearly impossible to quantify". Arguably, this can be due to the fact that improvements (results) may not be accounted to training but from external drivers such as customers, competition, technology, economy, political and social conditions. These drivers can all attribute to the levels of work performance by employees, therefore not only relating to training. Based upon the findings of this research, it may highlight areas that need to be addressed regarding further training. It might also be considered that a move away from the traditional style feedback 'happy sheet' is necessary, indicating that this form of evaluation does not collect the information required, rather it gathers immediate responses consequently not addressing the evaluation process to its full potential. Arguably total disregard for the information gained from simple traditional style 'happy sheet' should not be considered, because they will give an indication of how satisfied the users are with the services provided. Traditional 'happy sheets' can also identify areas of dissatisfaction which may require closer examination through more sophisticated micro evaluative techniques (Lancaster, 1977, pg 309).

Naturalistic Enquiry/evaluation models'

Many of the papers covering the multitude of models and approaches to evaluation are scholarly and academic with lengthy theoretical discussion. These papers appear full of jargon and technical terms that force a non-academic to reach for the dictionary, for instance Guba's (1981 & 1987) papers. Whilst academics and scholars disagree on the clarification of meaning of evaluation there is also disagreement regarding the definition of

models/approaches/persuasions/strategies relating to what, in their opinion, should be used for evaluation, although Trochim (2006) points out that each one will bring something to the evaluation table. A typical example of disagreement on the clarification of meaning is pointed out in detail in Guba's (1987) paper discussing 'naturalistic evaluation'; he informs us that he is "disappointed" upon reading the papers "*New Directions in Program Evaluation*" edited by David Williams (1986), he implies that the chapter authors don't understand the title '*Naturalistic Evaluation*'. In addition to Guba's opinions, Nevo (1983) suggests that outcomes of theoreticians of evaluation concerning the contribution to the advancement of evaluation theory and practice, could be more fruitful if those discussions focused on issues in disagreement rather than on competing models and paradigms. Nevo (1983) claims that his ten question framework would be more suitable than adopting one evaluation model or another. On the contrary Brettle (2007, pg 26) suggests "when selecting a measure, it is essential to bear in mind the reasons for service evaluation and to choose a measure that best fits in with this". A framework that fits in with this theory involves first considering who the learner is, secondly, what the intervention is, and, thirdly what the outcomes are. For the purpose of this research Straus's framework was used: the learners are undergraduate nursing students, the intervention is information skills sessions and consequently the outcome questions whether their searching search skills have improved by this intervention.

As stated earlier the methodology for this research project used a mixed methods approach. From a qualitative perspective according to Patton (1990, pg. 14) "qualitative methods typically produce a wealth of detailed information about a much smaller number of people". Qualitative research is often said to be naturalistic because using a naturalistic approach is understanding behaviour in a natural setting as Guba (1981, pg 76) suggests "the term 'naturalistic' describes a paradigm for inquiry, not a method". Although the terms 'evaluation' and 'naturalistic' have been defined in many different ways well-published

authors such as Patton (1990), Guba (1987 & 1981) and Stufflebeam (2001) appear convinced that mixed-method approaches have the opportunity to gather all available information and that “studies can be strengthened by using both types of information” Stufflebeam (2001, pg 41). Guba claims that it is quite possible to use naturalistic techniques using qualitative methods alone or as part of a multi-methods study. The information received is generalized, standardized, efficient information of the quantitative data and as Guba (1987) emphasises that the qualitative method is an exciting stage of the research, due to the rich and meaningful evidence gained from interviews. Individuals are able to give “concrete and real opinions” (Smith, 1986, pg 52), the researcher is able to get close to the respondents and get a real insight in to the feelings and experiences of the respondent, “bringing findings to life” (Stufflebeam, 2001, pg 40). There are many examples of mixed-method studies and the following example in Patton’s (1990) book *‘Qualitative evaluation and research methods’* emphasizes ‘the power of qualitative data’. Patton introduces the reader to a study from the early 1970’s concerning a new accountability system implemented within the school system of Kalamazoo in Michigan, America. The Kalamazoo Education Association requested the teacher’s perspectives on the new system by means of a survey, consisting mostly of closed-ended questions and two open-ended questions. Patton (1990, pg 19), informs us that “the officials were interested primarily in a questionnaire consisting of standardized items”, statements allowing agreement or disagreement. However it was the information gleaned from the two open-ended questions (qualitative information) that exposed the true feelings of staff concerning the new implemented system. Similarly, this suggests that within this research study using the mixed-method approach will demonstrate the differences between qualitative inquiry based on responses to semi-structured questions by qualitative interviewing of 10-15 minutes per participant and comparing the quantitative measurement on the standardized ‘Kirkpatrick based’ two part post and several weeks later questionnaire.

Evaluation culture

As far back as the 1960's the term 'evaluation culture' has been discussed as an ideology, Campbell (1971). Now in the 21st century it is a reality and it is expected to be the norm. Although the term 'evaluation culture' is rarely used or recognised, when organisation employees are asked if they participate in an 'evaluation culture' they assume it to be something special, for example an exercise they do not participate in, not understanding that the term refers to a general experience (Murphy, 1999). An 'evaluation culture' within an organisation can be described as a means by which they understand, accept, design and use evaluation particularly to support change and development: "In other words, they refer to a known, shared policy about evaluation within the organisation" (Murphy, 1999, pg 1). Arguably the culture of evaluation and research should create or strengthen interest, motivation and buy-in. Articles are now published with procedures and guidelines giving advice on how to implement this culture and way of thinking to all organisations large or small. In the 1990's Trochim (2006) was influenced by Campbell's paper and recognised the importance of the 'evaluation culture': discussing forward thinking and its importance; that anticipation of evaluation is key; not "reacting to situations as they arise"; and, installing simple low cost evaluations when programs are in their infancy and not when they are complete and installed. Trochim's and Campbell's ideologies in the 1960's and the 1990's reflect current thinking as Stewart (2014) discusses in her paper the culture of evaluation and research within her field of the Australian Government Department of Social Services. The key messages from this paper is that an organisation "with such a culture, organisational

efforts to build effective evaluation and research activities are strengthened” Stewart (2014, pg, 1). Furthermore, that this culture should be encouraged from the smallest organisations to global organisations and should be “integral and valued parts of organisations activities and purposes” (pg, 3). Involving employees in this culture of evaluation provides opportunities to gain new skills or enhance existing skills, renew interest in what and how they work. In addition this may boost confidence levels, as results from evaluations show achievement (Stewart, 2014) and outcomes can be measured, on the other hand if outcomes cannot be measured there is no value in learning from the evaluation. To communicate this vision, if it is not already in place it must come from the top hierarchal levels of organisations and show that evaluation and research champions can come from any level of the organisation. If leaders transfer the vision and the need for change, establishing their commitment to learning from evaluation and research this should empower others to follow their example, a culture of evaluation and research becomes more likely (Mayne, 2010; Mora & Antonie, 2012). Likewise Murphy (1999) agrees with this way of thinking and stresses that support from the top is vital to encourage and implement change as a result of evaluation and equally in his paper offers guidance for implementing a strategy for change as does Stewart (2014). Therefore from these opinions we can glean that a common thought from authors such as Murphy, Stewart and Trochim is that wherever an organisation culture is already recognised it must be retained, developed and most importantly encouraged. Conversely, some believe that evaluation is put simply a ‘driver for change’ and not necessarily change for the good, although it has been argued that constant progress often requires change. According to Murphy (1999) many have concerns about the evaluation culture as some evaluations are associated with bad experiences and may have the opposite effect and seem damaging for example,

"Evaluazion" was the term used after the reunification of Germany for assessment of a teacher's job performance in the former GDR, where the sole purpose was to reduce the size of the workforce. So for many of those who were affected, even when they kept their job, the term is forever negative in its connotations (Murphy, 1999, pg 2).

Similarly, Stewart (2014) explains that common concerns include that evaluations cost money that is best spent on other resources within the organisation, furthermore, the results are never used and another common thought is that information gathered from evaluations is concerning staff. Consequently this takes us back to similar concerns the teachers voiced in Murphy's paper (1999).

In short, if the evaluation culture is to grow, it is up to the change managers within the organisation to expel these notions by educating and training from the top down and that all stakeholders within and outside the organisation "must work together to strengthen the institutional commitment to learning from evaluation and research", (Stewart, 2014, pg 11) and by implementing evaluations that "will be simple, informal, efficient, practical, low-cost and easily carried out and understood by non-technicians" (Trochim 2006). Mayne, (2008, pg 13), also suggests numerous ways of building an evaluation culture within his paper that can "encourage evaluation culture to be developed and maintained in an organization".

It would seem that evaluation is not just a personal choice within an organisation. It could be that many institutions and organisation are under pressure to rationalise, be accountable and transparent in all their functions. In these instances evaluation may ask not only the view in monetary terms, also what is the program/object value from the point of all stakeholders?

Research Methodology

The purpose and context of the 'evaluand' will determine the appropriate technique (approach/program) to use to evaluate. A mixed-methods (Patton, 1990, pg. 186) approach had been chosen for this evaluation because the sample size of this research project is small and according to Patton (1990, pg. 14) "qualitative methods typically produce a wealth of detailed information about a much smaller number of people". The research was conducted using mixed methods using a naturalistic approach. Similarly Stufflebeam (2001) states "it is almost always appropriate to consider using a mixed-methods approach". The 'evaluand' was a training session that will be initially evaluated using an evaluation questionnaire based on Kirkpatrick's (2006) four level training evaluation model to analyse training effectiveness, however the evaluation questionnaire and this piece of research only addressed the first three levels Reaction, Learning and Behaviour. It would be difficult to measure the outcomes of level four 'Results' due to the participant's stage in their career (they are not employed yet by the organisation), this level was outside the scope of this research. The questionnaire will provide more quantitative data as the majority of the questions are closed questions. The second stage will be evaluating the 'evaluand' by qualitative interviewing using semi-structured questions.

The second stage of the research should illustrate the differences between qualitative inquiry based on responses to semi-structured questions (appendix 4) by qualitative interviewing of

10-15 minutes per participant and comparing the quantitative measurement on the standardized questionnaire. Evaluation sheets give quantifiable information however information about knowledge gained and consequently transferred is not easily measured from the evaluation questionnaire so the main emphasis will be to show that open-ended questions by interviewing will give a more in-depth point of view of respondent's perceptions, feelings, knowledge and experiences.

In this same academic setting previous projects have analysed feedback data from survey questionnaires and improvements were made where needed, however these earlier projects had not been fully explored to the point of carrying the research further as in this research project, where it has been taken a step further where face-to-face interviews are carried out. Therefore a further overall evaluation of the 'pre-registration library information retrieval skills training' report will be formulated and results will be analysed to identify further improvements or weaknesses within this program.

Research design

The naturalistic paradigm is associated with phenomenological view and qualitative approach and "naturalistic paradigm should be used whenever the study of human behaviour is involved" (Patton, 1990, pg 340) as it is about collecting individual and collective voices.

Patton (1990) believes quantitative methods allows measurement of reaction to large numbers of people whilst in comparison qualitative methods produce a wealth of detailed information about smaller groups.

The questions for the interview were initially based on the same questions asked on the second (post session) and third (several weeks later) parts of the questionnaire (appendix 2), all

though for the interview the questions were re-worded to make them semi-structured, open-ended questions. According to Turner (2010, pg 756) this form of gathering data from interviewing is the most popular as it allows respondents the freedom to “fully express viewpoints and experiences”. As stated earlier the majority of the questions on the questionnaire are asking respondents to give opinions on options to answers based on the Likert-type scale (Likert, 1932). According to Burns & Burns (2008, pg 245) “the range captures the intensity of their feelings for a given item” and is a commonly used approach to gain information from research based survey ‘questionnaires’, it involves respondents ticking boxes that signify their level of agreement or disagreement to the question. There were also four open text word boxes or comment field to close-ended questions that allows respondents to either offer additional information about their choice, or provide an alternative answer if the available answer choices do not apply to them. Other questions on the questionnaire were asking dichotomous questions, whereby questions are likely to have only two possible answers. These types of questions are commonly used within surveys to get clear distinction of respondent’s experiences and opinions; there was also one question within the questionnaire which was a ‘Matrix’ style question. “A matrix question is a closed-ended question that asks respondents to evaluate one or more row items using the same set of column choices” (Survey Monkey, 2015). However, these types of questions typical of quantitative evaluations do not give the respondents many choices to express their experiences but to fit in with the evaluators categories, this then emphasises the differences between the potential wealth of knowledge gained from qualitative interviewing from narrow and often closed questions commonly used in quantitative questionnaire evaluations, which as stated previously does not adequately answer the question of whether knowledge has been gained and transferred.

Each of the 13 questions used in the interview stage of this research project were taken from the questionnaires responses and themes these were then re-worded to make them semi-

structured questions. The responses from the evaluation questionnaire informed the semi-structured question asked within the interview. From there, the themes started to come through. In the interview a question was asked that had no resemblance to questions on the questionnaire, however it was deemed important to get the respondents views on their personal need for extra training not only for their own use but consequently benefit to the service for future training. The fourteenth and last interview question asked “What additional training would be helpful to you?” and the main requests were “more refreshers” on the content they have previously had, which fits within theme two.

A copy of the interview questions were given to the interviewees twenty four hours prior to the interview allowing them to recall and reflect on the content. As stated previously a question at the end of the interview was asked that was not part of the questionnaire but it was deemed important to get the respondents views on their personal need for extra training, consequently a wealth of data was retrieved from this question. The questions asked in the interview were presupposition questions, Patton (1990, pg 303) is convinced that presupposition questions “are particularly useful in interviewing because the interviewer presupposes the respondent has something to say” and to emphasise this point linguists Grinder and Bandler (1975) suggest that this goes on all the time in the course of our day-to-day communication and neither the speaker nor the listener are even aware of this process. Furthermore Patton (1990, pg 303) suggests that using this approach may “increase the richness and depth of responses and data obtained”. A standardized approach to the interview was used for example “collecting the same information from everyone who is interviewed” (Patton, 1990, pg 286) so that issues of legitimacy, bias and credibility are minimized. It is also pertinent at this stage to point out that three particular strengths to the data collected, were that the interviews were conducted in the same environment, asking the same questions and furthermore the “same researcher (interviewer) so that any effects of different personal

interviewing styles were minimized” (Irvine et al, 2012, pg 93). In addition to this (Patton and McNamara, 1990, 2009) also suggests that an ‘opening statement’ (appendix 5) before the interview commences enables the interviewer to plainly convey the purpose of the interview at the start, this explanation communicates respect for the respondents being interviewed. It allows the interviewer to clearly explain the purpose and importance of the interview and also reasoning of why the respondents may have been chosen to participate. For instance, what kind of questions will be asked, what the information gathered is for and for what purpose; how long the interview is expected to take and how participants can get in touch afterwards if needed. In addition, how the data will be used, handled and this also will encompass confidentiality (Patton & McNamara. 1990, 2009). From an interviewers point of view, particularly under the promise of confidentiality some interviewees “will tell you things they never intended” (Patton, 1990, pg 355). The opening statement should be “simple, straight forward and understandable” (1990, pg 328) in addition it should contain three basic messages. Firstly, “that the information is important, secondly the reasons for that importance and thirdly, the willingness of the interviewer to explain the purpose of the interview out of respect for the interviewee” (1990, pg 328). Importantly at the end of the opening statement ask the interviewee if they have any questions before the interview commences, thus allowing any confusion on the interviewee’s part to be placated at an early stage. Equally as important if the interview is going to be recorded, permission from the interviewee should also be requested. According to Patton recording interviews not only permits greater accuracy of information collection but allows the interviewer to concentrate more on the interviewee. An interviewer cannot possibly write down everything an interviewee says whilst “responding appropriately to the interviewees needs and cues” (1990, pg 348) and thinking about probing to gather further information. Whilst recording doesn’t eliminate the need to make notes, Patton believes notes serve many purposes for example they can help “formulate new

questions as the interview proceeds” (1990, pg 348). Despite this Lincoln & Guba (1985) claim there are as many disadvantages as advantages to this, for example, note taking may distract the respondent, the respondent may feel the need to slow down their response to allow the interviewer to catch-up which may cause a loss of train of thought, notes maybe indecipherable and also one cannot accurately record everything.

Setting and Sample

The research took place within a multidisciplinary Health and Social Care Education and Training Centre which incorporates academic studies and the Library and Information Technology (IT) suite. The centre is where the students three year academic (theory) takes place.

The sample size of the research project is sixteen undergraduate pre-registration nursing students. Ten are adult nursing students and six are mental health nursing students, although the course is degree level, some students already have degrees.

It was hoped that the response rate would be a 100%, and in this case all sixteen students voluntarily completed the pre and post questionnaire afterwards a further eight students then volunteered to be interviewed for the second stage of the research. It might be concluded from this response that the students felt it was important not only to the study but also to them personally.

Of the eight voluntary interviewees, five were Mental Health nursing students and three were Adult nursing students. Creswell (1994) suggests when conducting face-to-face interviews to choose non-shy participants as they are more likely and willing to share, in other words “be willing to openly and honestly share their information or their story” (Cresswell, 2007, pg 133). However to reiterate the interviewees in this research project volunteered to be

interviewed so we can assume that they did not possess a shy personality trait and were more than willing to share.

The respondents volunteered to take part in the research, however the training session 'evaluand' was mandatory as part of the students' pre-registration curriculum. All students had the same training, however not all the resources mentioned on the evaluation questionnaire were covered. Formal consent was requested first verbally and further via consent forms (appendix 6). Furthermore the research project followed the Department of Information Studies policy on ethics and not the National Health Service (NHS) guidelines. As the respondents in this study are Chester University students and are not currently employed by the NHS.

Methods and Instruments used to collect data.

Glatthorn (1998) explains that "Quantitative primary, quantitative first" means beginning with a quantitative approach as a primary method, then using qualitative follow-up approach to evaluate and interpret the quantitative results. The survey instrument to gather the quantitative data were two part post and several weeks' later questionnaires with a follow-up method using semi-structured interviews which is a qualitative approach. A mobile telephone was used to record the interviews, next the data was transcribed and from the transcripts coding was used to determine themes.

Data analysis/results

The analysis revealed many differences in results between the qualitative and quantitative methods as anticipated. The information gleaned from the interviews was much more in-

depth and answers were given in the interviews to similar questions that the respondents on occasions did not answer in the questionnaire. There are a number of questions that were asked that will not be discussed as themes were not apparent. However for future research purposes the data will be revisited. Examining the data exposed four themes; these themes uncovered are in the first instance, that respondents did gain knowledge and consequently transferred learning; refresher sessions are needed periodically; learners would prefer more and shorter sessions instead of in one block; and smaller groups were preferable within the classroom setting using their own laptops. These themes primarily came from the interviews (qualitative) method other than the questionnaire (quantitative) research method.

The following paragraphs will explore some of the themes that have emerged and will include illustrative quotations from the interview transcripts. These quotations included in the results for ease of reading where needed have been grammatically corrected, however it is assured that no substantive changes have been made (Green & Ruff, 2005).

Theme 1 - Gained and transferred knowledge

The respondents appeared to gain knowledge and consequently transferred learning; this was revealed within both the qualitative and quantitative data. Two closed questions within this category from the quantitative data had a high response rate of 75%, respondents answered 'yes' when asked if they had shared their new knowledge. Similarly 100% answered 'yes' when asked if they used the skills learned in order to find health related information.

Although it can be interpreted from the quantitative data that knowledge was gained and transferred, the qualitative data gave considerably more depth of data, with respondents giving examples of how these new found skills have been actually put in to practice are "rich and thick" (Turner, 2010, pg 756) in detail:

“My life is easier; it’s made my assignments stronger”.

“My knowledge has improved the quality of assignments really”

“Used them in my assignments to find appropriate information to support arguments”

Likewise respondents explained within the interview not only that they had gained knowledge but other ways that they had transferred it:

“I came away with a lot more knowledge than when I started, so it was beneficial”.

“I found it really successful because I was then able to go off and find the things I wanted to use”

One student explained sharing new understanding with her peers -

“We bounce different keywords of each other to get wider results”

In addition, information from the qualitative data collection (which would be difficult to gather in the quantitative data due to closed questions), was that an emotional thread emerged. Respondents gained confidence from their new found knowledge:

“Confidence really that you get with knowing how to use something”

“The sessions gave me confidence in using up to date research”

“More confidence in using the databases and I’m happier for it”

Theme 2 - Refresher sessions

The information from the 'refresher sessions' theme came from both qualitative and quantitative data. From the qualitative data a question in the interview asked how the respondents felt training could be improved and also what additional training they felt they required. Not only did these questions reveal theme two but also themes three and four emerged, for research purposes this question revealed a lot using the qualitative approach chiefly:

"A refresher now that I'm more aware of the citations the context is now understandable".

"A refresher on RefWorks, definitely just to make sure I'm getting the most out of it".

"Because I now know the importance of these databases I will probably get more out of it".

"Maybe a couple of refreshers sessions I will absorb it better now because we all know what we're looking for and it will make a lot more sense".

"Refresher sessions, so we can double check that we are doing it right".

In stark contrast to the low response rate using the quantitative method when asked to make further suggestions to improve future training, which required the respondents to answer in an open text box, 87.50% failed to answer. Notably the two comments received in the open text were not a recognised theme and the two respondents gave different responses in the questionnaire than the interview.

Theme 3 - More and shorter sessions

One theme that did emerge from the quantitative data was that 50% of the respondents that commented in an open text box when asked what they disliked, a theme emerged that was very clear, which was the length of the sessions. For example; the respondents appear to have felt overwhelmed with information through disclosing information such as -

“Bit long”

“How long it was”

“Amount of information”

“High volume of information”

“The length really too long”.

Whilst this same theme was apparent in the qualitative data however it was expressed in a more explicit way for example:

“I just felt quite overwhelmed”.

“I suffered from information overload”.

“There’s fine line between introducing all this information and giving the extras that you think we need at the beginning”.

The use of the words ‘overwhelmed’ and ‘suffered’ indicates a stressful response to the length of the session and content. As stated previously outcomes of evaluations maybe

considered detrimental, insignificant, or valuable, or in some cases all of these at once. Whilst some comments may appear detrimental they are inadvertently valuable. These types of comments received from using qualitative methods such as interviewing in evaluations are such that emphasise the importance of evaluating.

It is important that this type of experiential feedback is acted upon and changes made to reflect this initiative to future sessions. Furthermore changes should be implemented as soon as possible to progress and to make worthwhile the whole process of evaluation. According to Stewart “failure to act on evaluation findings, where appropriate is a legitimate concern” (2014, pg 9). Despite that the data from both methods suggests that learning did take place and knowledge was transferred, it may be concluded from this that if “information overload” is not an issue, more learning may take place if the sessions are shorter as noted by the respondents. Sadly, the comments above are not always what an evaluator wants to hear, especially if the evaluator is the one facilitating the evaluated service.

Comments made within this theme which were collected from the qualitative interviews which would overcome this barrier to ‘information overload’ respondents suggested the following:

“Not as long, maybe broken up”.

“It’s a lot for someone to take in if they haven’t used those skills before, so shorter sessions would better”.

“A little bit long, so maybe concentration may have held a bit better if it was shorter”.

“I think training should be done intermittently not just at the beginning”.

“I think the option to have more sessions would be nice”.

Theme 4 - Smaller groups, classroom setting with own laptops

This theme that emerged was surprising as these issues have never been raised before; this theme was not discovered within the quantitative data, although the respondents had the opportunity to voice these dislikes in the open text boxes. The theme became evident across four questions asked in the qualitative data such as how the respondents thought training could be improved, aspects they liked or disliked and finally other comments and suggestions respondents may have.

“I felt it was good, useful and relevant maybe it would have been better if there were less people, smaller groups”.

“I would say smaller groups and also positioned so that you can see the big screen”.

“It’s quite a small room so smaller groups”.

“I thought the group was too large, a group instead of 8 maybe 4”.

“Classroom environment where everyone has their own laptops, that would make it easier”.

“Smaller groups and a slower pace”.

“My backs behind you as I’m looking at the PC, so the IT room is not perfect place”.

However, it may be due to the reason that the two information retrieval sessions taught where in two different environments, one session in the library IT room and the other in the classroom. Normally sessions would not be in the classroom, however the IT room was

unavailable at the time and consequently this allowed the students to compare the two environments and further allow them to judge a preference.

Limitations

Whilst it is apparent that Patton (1990) has been relied on heavily within this paper; it is argued that Patton's works are understandable, clear and concise and as such gave confidence to a novice researcher.

If interviews are the sole source of data, it can be limited due to participants only giving their perceptions and a perspective on what has happened. This may involve personal bias, even politics can have an effect and according to Patton (1990) the emotional state of the interviewee and the setting can greatly affect the results. Building a rapport with interviewees should be established, as they need to know that what they convey within the interview is important data. However, Patton (1990, pg 317) believes neutrality is as important as the rapport, thus enabling the interviewee to realise that they can tell the interviewer whatever without causing favour or disfavour with regard to the content of their response and furthermore the interviewer will not judge them for the content of their answers. However important rapport and neutrality are it may be assumed that the interviewees within this research project may not have felt that the interviewer was totally neutral, due to the fact that the interviewer was in fact the tutor in the 'evaluand'. This inadvertently may have caused the respondents to be more empathetic with their answers in the hope of not upsetting the interviewer.

Another difficulty which could arise in future research is that if the sample size is large whilst using open-ended questions in interviewing difficulties could arise in identifying coding. This is due to the effort in coding the data or recognising themes with large groups due to ability that allows respondents to give rich and descriptive data, which can make it more difficult to distinguish an overall perspective (Turner, 2010).

Other limitations include imposition on respondents. In this research project respondents gave their time freely, however it was difficult to fit the interviews in with their timetabled schedule whilst be aware of not imposing on the participants own time. As McCracken (1988, pg 27) points out, “participation in qualitative interviewing can be time consuming, privacy endangering and intellectually and emotionally demanding”.

Conclusion

The two part post and several weeks’ later questionnaire evaluation did give valuable quantifiable hard data but the knowledge gained and consequently transferred from the evaluand was not easily measured using this method, although it did confirm that knowledge gained and consequently transferred. However, the results from the qualitative data confirmed and emphasised that interviewing with open-ended questions gave much more in-depth answers. Through experiential feedback the respondents felt able to express answers in their own words and explain fully the knowledge gained and transferred. Although interviewing is a sole form of feedback it also has many barriers, for example, time. However, one cannot deny that the time it takes to implement this method of gathering information, in this instance was worthwhile. Additionally it was also valuable to use both methods to gain information and furthermore to compare the answer from using both research methods. In essence interviewing gives the chance to experience the respondents world and

according to Patton (1990, pg 357) in-depth interviewing means “walk a mile in my head”. The most satisfactory conclusion that we can come to is what has been achieved within this project is owing to the fact that both methods of research were used, both methods did measure knowledge gained and transferred, although in quantitative terms not in detail. However from using qualitative data collection methods more was gained than merely finding out that students acquire and transfer knowledge. Other themes arose that had not been highlighted before now, which in essence is important to the continued programme of making sure that all aspects of students learning needs and requirements are obtainable and achievable. “The purpose of naturalistic inquiry is discovery rather than verification” (Patton, 1990, pg 340) and if these needs and requirements are discovered from experiential feedback we have truly walked a mile in the respondents head.

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Appendices

Appendix 1 - Current feedback questionnaire 'happy sheets'

Library Evaluation Form

Name: _____

Trainer: _____

Course Title: Literature & Searching Skills

Course Date: _____

Venue: Library

Please complete **ALL** questions on this form to let us know what you thought of the training you have received. This will help us to further improve our services – thank you.

About the Course:

Not at all

Partially

Mostly

Totally

Were the objectives clearly stated?

Comment: _____

Was the content clearly delivered?

Comment: _____

Were all acronyms and terminology explained where necessary?

Comment: _____

Was the information easy to absorb?

Comment: _____

Did the course meet your personal expectations?

Comment: _____

Did the course meet its stated objectives?

Comment: _____

Please grade the following using the boxes provided, where 1 =Poor and 4 =Excellent

About the Tutor:

1

2

3

4

How would you grade the Trainer:-

a) Knowledge and understanding of the software?

b) Were you encouraged to participate?

c) Overall.

Overall:

What is your assessment of the course?

We would welcome any further comments about the training:

Please return to the Trainer – thank you.

Appendix 2 - Two part post and several weeks later questionnaire

Part 2: Immediately after the session

1. What prompted you to attend a training session?

- New job Research Education/assignment Continuing professional development
- To improve evidence-based practice/patient care Writing guidelines/competencies/protocols

2. Which training course did you attend?

- Library Induction The Cochrane Library
- PubMed Evidence-Based Medicine and Critical Appraisal
- Google Scholar
- NHS Evidence
- E-Journal & E- Books
- ReFWorks
- Introduction to CINAHL/MEDLINE
- Advanced CINAHL/MEDLINE
- British Nursing Index (BNI)
- UpToDate
- Introduction to Social Care Institute for Excellence (SCIE)
- Introduction to PsycInfo via Ovid

3. When did the training course take place?

MM / DD / YYYY

Date

4. Please rate the following (1 = poor 5 = excellent):

	1	2	3	4	5
Session content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amount of information provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length of the session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training materials and handouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training room facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Do you feel that information was provided at the correct level for your learning?

- No, it was too complicated
- Yes, it was just about right
- No, it was too easy

6. Did the course meet the objectives set out at the beginning of the session?

- Yes
- No

7. Did the course meet your own expectations?

- Yes
- No

8. How would you rate your knowledge and skills before the training session?

- Not at all confident
- Average
- Fairly confident
- Very confident

9. How would you rate your knowledge and skills now?

- Not at all confident
- Not very confident

- Average
- Fairly confident
- Very confident

10. Overall, how satisfied were you with the training session?

- Very satisfied
- Satisfied
- Not satisfied

11. What did you like most about the session?

12. What did you like least about the session?

13. Would you recommend the training session to colleagues?

- Yes
- No

14. If you have any further comments or suggestions on how we can improve our training, please write in the box below.

Part 3: Several weeks later

1. Since attending the training session, have you used any of the skills learned in order to find health related information?

Yes

No

I have not had the time/opportunity

2. Have you shared what you have learnt with colleagues?

Yes

No

3. Please indicate if you feel the training has impacted on the following areas:

Continuing Professional Development Patient Care

Education Research

Evidence Based Practice Service Improvement

Please provide additional information



Appendix 3 - Search terms used to locate studies

Topic	Terms Searched	No articles found	Relevant articles selected
1.Evaluation	Evaluating OR Evaluation OR Evaluating Methods OR Program Evaluation OR Program Assessment	7204	35
2.Information Searching Skills Training	Information Literacy Searching OR Information Skills (Training OR Teaching)	2409	10
Combine	Search 1 AND 2	2276	3
3. Surveys	Questionnaires OR Surveys OR Happy Sheets OR Feedback (Forms OR Sheets) OR Assessment	2789	6
4. Kirkpatrick	Kirkpatrick Model OR Kirkpatrick's Four Levels OR Kirkpatrick Evaluation OR Four Level Approach	1500	3
Combine	Search 3 AND 4	2250	10
5. Evaluation Models	Evaluation (Approaches OR Enquiry) OR Mixed-	9	7

	Methods OR Multi- Methods		
6. Qualitative	Methods OR Enquiry AND Qualitative Evaluation	25	13
7. Quantitative	Methods OR Enquiry AND Quantitative Evaluation	51	9
8. Naturalistic	Naturalistic (Approach OR Enquiry)	6820	5
Combine	Search 5 AND 6 AND 7 AND 8	56	10
Evaluation Culture	Organisation Culture OR Performance Culture	169	4

Appendix 4 - Interview Questions

Interview Questions

1. What expectations did you have about the course?
2. How were these met or not met?
3. Describe the appropriateness of content level in relation to the information presented at the time.
4. What was your overall opinion of the training session?
5. How could the training be improved?
6. Let me ask you about some of your feelings about the sessions. What are some of the aspects that you have really liked about the sessions?
7. What about dislikes? What aspects you didn't like so much about the sessions?
8. On reflection describe what could or has been shared with colleagues.
9. What sessions/topics would you suggest for future information skills training for pre-reg students on induction?

10. What other comments, observations and suggestions do you have?
11. Describe the knowledge and skills gained since your first session.
12. How have you used your acquired skills since attending the session?
13. Where do you feel the knowledge and skills learned from the sessions has had most impact since the session?
14. What additional training would be helpful to you?

Appendix 5 - Interview opening statement

The purpose of this interview is to acquire information that will assist in the development of future programs provided by the Library & Information Team. As a participant in the program, you are in a unique position to give experiential feedback.

The answers from all eight students interviewed, will be analysed with the pre and post questionnaires, which sixteen students completed. The answers from the quantitative data (questionnaires) will be compared to the qualitative results from the interviews. A further overall evaluation of the pre-registration library information retrieval skills training report will be formulated and results will be analysed to identify further improvements or weaknesses within this program and nothing you say will be identified to you personally.

The interview should take approximately ten minutes and as we go through the interview, if you have any questions about why I'm asking something please feel free to ask. Or if there's anything you don't want to answer, just say so. The purpose of the interview is to get your thoughts and opinions. Please be assured that anything you say will be dealt with in strictest confidence.

Would you mind if this interview is recorded?

Any questions before we begin?

Appendix 6 - Consent form

Consent form

Title of project: **'Evaluating the Evaluation'**

Name of researcher/s: **Amanda Marsay**

Project authority: **This research project is being undertaken as part of a BSc Econ degree in Information & Library Studies from Aberystwyth University**

- | | Please tick |
|---|--------------------------|
| 1. I have received enough information about what my role involves. | <input type="checkbox"/> |
| 2. I understand that my decision to consent is entirely voluntary and that I am free to withdraw from the study at any time without having to give a reason; and I know that this will not affect my education. | <input type="checkbox"/> |
| 3. I consent to participate in this study about evaluating an evaluation about my responses to an Information retrieval training session | <input type="checkbox"/> |

Name of participant (IN BLOCK LETTERS)	Signature	Date
Name of researcher (IN BLOCK LETTERS)	Signature	Date

Please return this Consent Form to:

Amanda Marsay, Library