DO SCHOOL LIBRARIES MAKE A MEASURABLE DIFFERENCE TO STUDENTS’ LEARNING OUTCOMES?

A study submitted in partial fulfilment of the requirements for the degree of Master of Arts in Librarianship at

THE UNIVERSITY OF SHEFFIELD

By

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ABSTRACT

There is a need to identify the most effective method to measure learning outcomes because the effect of the role of libraries as educators, informers and recreational providers still exists. But it has moved into a new environment based on government and advocacy group pressure to improve ICT, IL, general library skills, and overall best practise, as well as creating value for money.

A wide variety of research exists into the effect of libraries on student learning outcomes, however much of this is incomparable, produces inaccurate results and relies on dubious methodology. This paper attempts to identify an effective methodology for measuring student learning outcome by running a Critical Desktop Review of the salient literature and from this, finding a relevant method to critique.

The soundest methods identify the indicators that lead to student outcomes, whilst there is disagreement as to how effective student output measurements are. Factors that need to be recognised during a study include the effect of childhood feedback, funding bodies and other advocacy groups, external and internal influences of the school and the interest of those involved in the study.

The plethora of large-scale US-based work also identifies a need to adapt and trial these for UK educational institutions, so the questionnaire created by Todd (2004a) is assessed in this paper. The Todd method uses qualitative Likert scale-based ‘helps’ responses to provide a quantitative feedback to statements about how a library helps students. The questionnaire is aimed primarily at students, but is also to be used to assess how teachers and librarians believe the students think. There are a number of qualitative questions.

Assessment of the Todd paper is based on qualitative assessment of the quantitative feedback from an experiment running Todd’s questionnaire. Todd’s method suffers due to its quantitative reliance. It also creates a ‘positive’ slant to the results and has a number of vague questions.
Overall, the Todd method, mixed with qualitative feedback, provides a good all-round assessment of a school library and will probably identify indicators relating to student outcomes. Although its positive slant is concerning and although it is easy to fill in, it provides little interest for its participants. If these features are addressed, it could be a useful medium scale study method.
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1.0 INTRODUCTION

1.1 Rationale

1.1.0 Background

1.1.1 In the last three years, a number of reviews, policy suggestions and research papers have begun to suggest a more considered approach when assessing the effect of librarians on student learning outcomes. This is partially because the framework within which school librarians have always functioned has changed dramatically, both within the UK and globally (Wavell, 2002, Lonsdale, 2003, Streatfield, 1994).

1.1.2 A major global change in library provision has been in the implementation of ICT, which has impacted on educational practice and philosophy (Lonsdale, 2003, Curry-Lance, 2003, Todd, 2003, Grabinger, 1995). For school librarians, the major changes have been in infrastructure provision and the teaching of Information Literacy (IL) skills (Becta, 2005a). However, in a recent report on 55 schools in the UK, it was found that smaller schools seem to still have issues with IT infrastructure and skilled staff (Becta, 2005a).

1.1.3 This issue of skilled staff is particularly pressing in the UK and Australia. Smith (2002) notes that in the UK, more library assistants run school libraries than do chartered librarians, and Lonsdale (2003) talks of a general shortage of teacher librarians and an increase in untrained staff in Australia. Added to this is an ageing profession, leading to a need for increased recruitment.
1.1.4 So school librarians are in need of proof of their competence to attract new talent Lonsdale (2003). Todd puts it succinctly when he suggests that librarians should:

“move beyond this advocacy/sell/public relations approach to...focus on an evidence-based practice approach and make this the public voice of the profession.” (Todd, 2003: 13)

1.1.5 However, an evidence-based approach should not just be used to promote advocacy in school libraries. It should also improve the effect of librarians on their user populations, because by improving the learning outcomes of the students via greater collaboration with teachers and school staff, the librarian benefits as well.

1.1.6 Furthermore, Oberg in Lonsdale (2003: 10) says that understanding how school libraries make a difference to students learning outcomes has “a particular urgency at this time because of the demands for accountability and measurable outcomes”. This demand stems from governments and advocacy groups who recognise the need for value for money and also for improvement within schools (DfEE/DCMS., 2001, Lonsdale, 2003, The Reading Agency, 2004, C.I.L.I.P., 2002, Curry-Lance, 2002).

1.1.7 To ascertain how school libraries can positively affect school library users, a number of recent influential studies have begun to identify the tools that are needed (I. M. A., 2004, Curry-Lance, 2002, Todd, 2004a, Williams, 2001b). These concentrate on assessing how library provision affects student outcomes (such as better Internet searching), rather than just studying the outputs (such as exam results).
1.1.8 However if these studies of outcomes are to be of any use, then they need to measure evidence of the effectiveness of a particular action (Streatfield, 1994). These measures of effectiveness are termed the ‘impact indicators’, in that they indicate how much impact a particular outcome has made. Figure 1.1.8 shows such ‘outcomes’ and measures the ‘impact’ that they produce.

<table>
<thead>
<tr>
<th>OUTCOME</th>
<th>INDICATORS</th>
</tr>
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</table>
| Motivation: student enjoyment and participation and absorption in the set tasks | - Verbal and written expressions of enthusiasm by students  
- Student willingness to participate in the activity set  
- Student appreciation and absorption in the task  
- Willingness of students to continue their work by returning to the library or at home  
- A change in attitude towards work over a period of time |
| Progression: an awareness of or ability to use specific skills associated with finding information and sometimes the use and presentation of information | - Knowledge of and success in applying specific information skills related to finding, using, and presenting information  
- The use of new knowledge in work or discussion of new knowledge  
- Personal achievement or quality of work  
- The ability to apply skills or knowledge to a new situation |
| Independence: where students appeared to have mastered a skill and were seen to have the confidence and competence to proceed and progress unaided, either in or out of class sessions | - The ability and confidence to continue and progress with a task unaided  
- Awareness of the need for help and the confidence to ask for it  
- Use of initiative  
- Increased self-esteem |
| Interactions: where discussion and interaction took place—with peers and teachers | - Discussions with others about the task  
- Peer co-operation  
- Ability to mix with other groups  
- Use of appropriate behavior |

Figure 1.1.8: Impact indicators used to identify specific outcomes (Williams, 2001a).

1.1.9 According to Williams, it is these ‘impact indicators’ that inform the library how improvements have occurred and thus indicate best practise to show how libraries can improve.

1.1.10 Todd in (Lonsdale, 2003) suggests that such outcome-based research requires gathering:

“...meaningful and systematic evidence of the impact of the librarian’s instructional initiatives on student learning outcomes – what students can do and become” (Lonsdale, 2003: 9).
1.1.11 This is far more than just running tests and seeing what the results are, as tests tend to bias just those participants who do best in test environments. The approach suggested by many reviews of the literature has come to the conclusion that triangulation, with a bias towards the qualitative side, produces the most meaningful results (Dervin, 1992, Gniewek, 1999, Lonsdale, 2003, Scott, 2002, Johnson, 2004, Williams, 2001a, 2002).

1.1.12 However, a note of caution is sounded by Oberg in Todd (2003: 14):

   “Many people, including educators, are suspicious of research and researchers. Research conducted closer to home is more likely to be considered and perhaps to be viewed as trustworthy”

1.1.13 So it would seem sensible that UK governments would be more easily won over by UK-based research. However, it is unlikely that such research can be fully internationalised as each country is different in terms of how school libraries are run and thus how they affect learning outcomes (Lonsdale, 2003). International bodies would be more easily swayed by research from more than one country.
1.2.0 Government and advocacy group proposals and policies

1.2.1 Much of the call for assessment of libraries has come from government, and this is partially based on increasing pressure to justify resource expenditure and allocation within library departments on a worldwide basis (Todd, 2003, Williams, 2001b, Lonsdale, 2003).

1.2.2 However, as most governments are also in power to improve the life of their citizens, requests from government to improve school library services will not always be based on financial prudence. The fact that school librarians are in touch with most children of school age must also create an incentive in government to create effective policy, because the policy then generates a pervasive influence on child education across the board.

1.2.3 A good example of the UK government’s principles in relation to improving quality is a UK government White Paper, which suggests that policy should “investigate ways of sharing good practice between school libraries, so that overall standards rise and demand from teachers is stimulated” (DfEE/DCMS., 2001).

1.2.4 Advocacy groups are also calling for investigations into how to create a rise in student outcomes. With CILIP (C.I.L.I.P., 2002), The Reading Agency (The Reading Agency, 2004), The Australian School Libraries Association (Lonsdale, 2003), the US Administration (Lance, 2002b) and the International Association of School Libraries (Nimon, 1995) all calling for an ‘every child matters’ approach, where assessment of libraries produces improvements in student’s formal and informal learning.

1.2.5 This is also true of public libraries, with Framework for the Future (Demos, 2003) calling for public libraries to reinforce formal learning so that promotion of reading can improve literacy, formal education can improve generally and a ‘deep learning culture’ for self-motivated learners can be used to establish lifelong learning.
1.2.6 There is thus a recognition within government and advocacy groups that library services can improve student learning. However, recognition that library provision needs improving and actually promoting policies to improve it are two very different propositions. So proper research needs to be done in order that the most effective methods are in place to enact government policy.
1.3.0 Assessing school libraries for their effect on educational improvement

1.3.1 Assessing school libraries for their affect on educational improvement is complex and, as Wavell (2002) found, can sometimes lead to confusing research results that are not comparable.

1.3.2 The first issue when assessing educational outcomes is whom to assess. When choosing a sample study group there are a number of audiences to assess because school libraries affect not just the pupils, but the staff who support and teach them and, to a lesser extent, the pupil’s parents. There are also external groups that influence libraries through national or regional policy, such as governments, school boards, advocacy groups or even organisations such as youth clubs.

1.3.3 The ‘local’ effect on studies, especially involving children, should thus not be ignored (Williams, 2001b). Although by selecting schools that include certain general criteria, or by choosing schools across a range of criteria, some variation can be accounted for (Williams, 2001b, Todd, 2004c, Lance, 2001). Furthermore it is also possible, as Williams did in Scotland (Williams, 2001b), to ignore demographic, social and economic factors and concentrate instead on the range of responses rather than trying to find specific groups to compare.

1.3.4 So although local effects are important, international research could still be used to give general indications regarding effective practice in improving learning outcomes.

1.3.5 However, the stances taken by specific groups can still influence results so that they are less comparable. For instance, Whelan (2004) refers to the ethnic group results from the Todd (2004a) study. But the study group in the Dixons CTC research (this study) regarded ethnic information as sensitive and so ethnic comparisons between Todd and Dixons would have been impossible.
1.3.6 There is also the issue of who the research is being undertaken for. The ‘Passing Time’ report (Edwards, 2003) highlighted that children wanted to be consulted about the services that affected them (The Reading Agency, 2004) and this led David Miliband, the Minister for State for School Standards, to talk about ‘personalised learning’. In Milliband’s model, the children become the assessors of their own needs and government policy concentrates on reading and learning styles. So if research followed Milliband’s model, the researcher may choose the sample population as children and concentrate on their reading and learning skills. But would such a study just be pandering to political trends, rather than effectively assessing how school libraries can improve student outcomes.

1.3.7 It seems more sensible that study’s be based on just the results and not pander to certain political whims. However, there are a range of methods by which assessment has occurred in the past in this field and so variation, even in academic research, can lead to confusion (Wavell, 2002).

1.3.8 The academic research that is occurring involves a move towards large-scale studies, as this can give a wider picture for both government and advocacy groups. Large-scale studies are thus underway in the UK (DfES, 2004), have already been undertaken in the US (Lance, 2002a, Todd, 2004a) and are beginning in Australia (Lonsdale, 2003, Todd, 2003). However, large-scale studies require populations to sample and many librarians do not have the time or inclination to be involved in the work.

1.3.9 To encourage librarian involvement, these studies should promote themselves effectively so that the librarians believe that the work they are involved in will make a difference (Koechlin, 2002). There should also be plenty of variation in the assessments so that pupils and teachers are kept interested (Koechlin, 2002). Whilst well-designed questions that do not create misunderstanding will avoid the creation of dubious data (Borgers, 2003).
1.3.10 So the size and composition of trial populations, the variation in curriculum design, the cultural differences in and outside school, the attitudes to gender, the recognition of what makes a good factor to assess, staff training, enthusiasm for the research, external influences (such as government policy targets) and the quality of the questioning all affect assessment results.

1.3.11 The research community thus needs to recognise the wide variety of influential factors that can affect such studies if it is to have a hope of producing results that inform us of the effect of libraries on student’s learning. Otherwise, we may just be studying the effect of other, hidden factors within the research.
1.4.0 ICT and IL

1.4.1 Lonsdale (2003) finds that the most significant factor affecting how librarians impact on student achievement is likely to be the increase in access to information that has been provided to pupils. But Smith (2002) indicates that, of the 55 school libraries he sampled, the majority were run by teachers, many of whom lacked experience in teaching IL skills. Although there are no statistics or reports to indicate how this shortage in skilled staff affected the education of the pupils. There is thus a need for studies into ICT and IL training and their influence on learning outcomes and also a need to increase staff training programs.

1.4.2 The European Commission states that:

“…learning how to learn, to adapt to change and to make sense of vast information flows are now generic skills that everyone should acquire” (Commission of the European Communities, 2000:11).

1.4.3 Much of the call for improving ICT is thus based on improving these skills for life and establishing the acquisition of ICT proficiency as a vital skill for the younger generation if they are to fully integrate into society.

1.4.4 Framework for the Future (Demos, 2003) extends this by recognising that ICT development occurs far more effectively if links are provided at the local level, between public and school ICT learning networks. This shows a recognition of Lance (2002) and Williams (2001b) view that collaboration between groups is one of the main factors in improving performance. So collaboration is an important factor in improvement.

1.4.5 Another facet to improvement in ICT proficiency is an understanding of how to use the information and tools that have been gained. Koechlin in Koechlin (2002) provides a good attempt of an exhaustive list of the skills that the information literate student should practise (Appendix 1.4.5) and it is likely
that any assessment of the effect of librarians on student outcomes would include a section to identify such skills.

1.4.6 In practise, libraries are mainly dealing with the change in ICT provision by shifting away from:

“…audiovisual, library skills, selection of materials, isolated skill sets, resource input and general resources” towards “multimedia and telecommunications, IL and inquiry, learner needs analysis, collaboration and curriculum integration and learner performance diversification to target unique needs” (Harvey in (Lonsdale, 2003: 10).

1.4.7 The major move within IL has been to formulate standards regarding the teaching of IL, both to teachers and pupils. In terms of teaching, much of this is based on the ‘constructivist’ approach, which has required librarians to produce a more outcomes-focused practice to its training (Kuhlthau, 1993, Loertscher, 2002).

1.4.8 There are also a number of models that have been designed by academics to help support training, such as the 7 Pillars Model (SCONUL, 2005). Whilst the Information Power model from the US (Williams, 2001a), is based on work from an impact assessment (the Library Power Initiative) and thus shows how assessment of library effectiveness can lead to positive changes in IL training.
1.5.0 Staffing levels and professional practice

1.5.1 A number of reports have indicated that there is a need for advocacy within school libraries to attract more staff into the profession (Lonsdale, 2003, Smith, 2002, C.I.L.I.P, 2004). One of the best ways to increase the positive message about librarianship is to have proof that librarians make a difference, hence the need for assessment into what librarians actually do.

1.5.2 Unfortunately, even though librarians may be doing positive work, the message does not seem to be getting through to their employers. For instance, the overall percentage of Chartered Librarians working in comprehensive school libraries in 2002 stayed static at 30%, and was being beaten by the 34.9% of Library Assistants running libraries, (Table 1.5.2). This could indicate that, in 2002, employers did not see how effective Chartered Librarians could be and were thus content with using Classroom Assistants to fill the librarian gap. Unless librarians show what they can do, more jobs could be replaced. Unfortunately, figures for 2003-2004 were inaccessible for this researcher, so there is no way to see if the trend has been maintained.

Table 1.5.2: shows library staffing for comprehensive schools by survey

<table>
<thead>
<tr>
<th>Designation</th>
<th>%2002</th>
<th>% (1999)</th>
<th>% (1997)</th>
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<tbody>
<tr>
<td>Chartered librarian ft</td>
<td>23.5</td>
<td>29.3</td>
<td>23.8</td>
</tr>
<tr>
<td>Chartered librarian pt</td>
<td>6.5</td>
<td>7.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Teacher/librarian ft</td>
<td>2.1</td>
<td>2.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Teacher/librarian pt</td>
<td>1.1</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Teacher ft</td>
<td>14.5</td>
<td>12.8</td>
<td>30.3</td>
</tr>
<tr>
<td>Teacher pt</td>
<td>2.4</td>
<td>1.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Full Time Library Assistant</td>
<td>18.1</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Part Time Library Assistant</td>
<td>16.8</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Term Time Only</td>
<td>22</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>16.7</td>
<td>46.8</td>
<td>31.2</td>
</tr>
<tr>
<td>Sample size</td>
<td>1117</td>
<td>949</td>
<td>1043</td>
</tr>
</tbody>
</table>

Ref: (Smith, 2002).
1.5.3 The figures become even more alarming when looking at Table 1.5.3 where, for middle schools (11-16), Classroom Assistants outnumber Chartered Librarians by 37.4%. Although the figures get slightly better in the largest school sample size, the 11-18 schools, where librarians still outnumber Classroom Assistants by 6.1%.

Table 1.5.3: shows library staffing by school type

<table>
<thead>
<tr>
<th>School type</th>
<th>11-16</th>
<th>11-18</th>
<th>12-17</th>
<th>13-18</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>Chartered librarian ft</td>
<td>8.5</td>
<td>31.7</td>
<td>63.6</td>
<td>35.7</td>
<td>10.9</td>
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<tr>
<td>Chartered librarian pt</td>
<td>5.3</td>
<td>7.2</td>
<td>0</td>
<td>8.9</td>
<td>4.8</td>
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<tr>
<td>Teacher/librarian ft</td>
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<td>2.1</td>
<td>0</td>
<td>7.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Teacher/librarian pt</td>
<td>0.7</td>
<td>0.9</td>
<td>9.1</td>
<td>1.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Teacher ft</td>
<td>13.5</td>
<td>10.3</td>
<td>0</td>
<td>16.1</td>
<td>31.5</td>
</tr>
<tr>
<td>Teacher pt</td>
<td>1.4</td>
<td>2.7</td>
<td>0</td>
<td>0</td>
<td>3.6</td>
</tr>
<tr>
<td>Full Time Library Assistant</td>
<td>22.4</td>
<td>18.8</td>
<td>4.5</td>
<td>19.6</td>
<td>8.5</td>
</tr>
<tr>
<td>Part Time Library Assistant</td>
<td>28.8</td>
<td>14.0</td>
<td>4.5</td>
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<td>8.5</td>
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<td>Term Time Only</td>
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<td>Sample Size</td>
<td>281</td>
<td>584</td>
<td>22</td>
<td>56</td>
<td>165</td>
</tr>
</tbody>
</table>

Ref: (Smith, 2002).

1.5.4 However, the overall trend is down for librarians and the majority of libraries (91.6%) employ only one Chartered Librarian, with the number employing two at only 0.7% (Smith, 2002).
1.6.0 The solution to staffing problems?

1.6.1 One of Lance’s (2002) various assessments into how libraries affect learning outcomes showed how Chartered Librarians lead to improvements in learner outcomes if they were allowed to leave the basic work to the staff and become involved in collaborative teacher-librarian partnerships.

1.6.2 This example thus shows how studies which show librarians positively (or negatively) impacting on student learning outcomes can help to improve school librarian advocacy. Which would hopefully attract greater funding, leading to more jobs and more staff being attracted to the role.

1.6.3 However, research into learning outcome improvement will only ever be useful if the research is acted upon by librarians. It is thus up to the profession to advocate itself, but to do this school librarians require effective ways of studying how they improve learning outcomes.

1.6.4 These studies, if to be used in the UK, would thus need to focus on:

- The effect of the role of libraries as educators, informers and recreational providers (Prestebak in Lonsdale, 2003).
- The greatest library-based influence on learning in recent times, which is how librarians have adapted to their new IL and ICT roles.
- Assessing whether assessment techniques provided a measure of the effect of the school library solely in relation to its effect on learning outcomes, rather than being swayed by external or internal influences that have no bearing on how libraries affect learning outcomes.
- As Oberg (in Todd, 2003) indicated, identifying good quality UK-based research, or using a foreign study and adapting it to the UK educational system.
2.0 AIMS AND OBJECTIVES

2.1 Aims

The aim of this study is:

• To identify whether school libraries make a measurable difference to student learning outcomes.

2.2 Objectives

The main objectives were:

• To identify from the literature any factors that realistically discern the library’s sole, tangible effect on student learning outcomes.

• To assess whether these factors can be accurately measured.

• To find a technique in the literature that attempts to measure all (or some) of these factors. To apply that technique, in a context-relevant study of a school library, in an attempt to measure the difference that the library makes to student learning outcomes.

• To assess whether the chosen technique provided a measure of the effect of the school library solely in relation to its effect on learning outcomes; whether improvements are needed; or if the technique fails to fulfil its role.

• To identify the components of an effective technique for measuring the effect of school libraries on student learning outcomes.
3.0 LITERATURE REVIEW

3.0.1 A major feature of the literature review during this study has been the lack of access to a number of the seminal Australian and American Journal articles; especially the journals Orana and Scan. Sheffield University library has especially had difficulty getting copies of a number of references by Todd, which were especially relevant as it is the Todd methodology that this study is testing.

3.0.2 It has thus taken a great deal of searching and favour calling to get any of these titles and a number of them have never been found, so their content has had to be pieced together through references in other papers. The reader will thus find that there are more references than usual within this study which refer to cited work, as opposed to the original research.
3.1.0 Introduction

3.1.1 According to Lance in (Lonsdale, 2003), by 2001 there had been approximately 75 studies into the impact of school library media programs on academic achievement and these had occurred for the previous 60 years. But the changes mentioned in the introduction to this research have meant that many of the studies are out-of-date. Although as Prestebak in (Lonsdale, 2003) points out, the three elements of libraries, ‘information, education and recreation’, remain the same.

3.1.2 Reports by (Wavell, 2002) and (Williams, 2001a) conclude that there is a need for research to be undertaken into the impact of school libraries on student achievement within the UK. Up to 2002, the ineffectiveness of previous methodological designs was due to a number of factors:

- Much of the research shows a lack of focus in measuring the real factors that influence learning outcomes (Wavell, 2002, Williams, 2001a, Lonsdale, 2003).
- There is too much attention on traditional output measures, such as test scores, which tend to bias towards those students who do best in test environments. Furthermore, assessments that measure test scores as an indicator ignore those students who may do badly in tests, but are nevertheless effective learners (Wavell, 2002, Nimon, 1995, Williams, 2001a).
- There is too wide a variation in the data collected, or the research designs, which frustrates comparison (Wavell, 2002).
- Most of the large-scale studies are based in the US, which is a useful focussing point on research into this area (Williams, 2001a, Wavell, 2002).
- There has been little work done on the effect of school libraries on learning outcomes in secondary education (Williams, 2001a).
3.1.3 In an attempt to identify best practice in such assessments in the UK, government and professional advocacy groups, as well as academic bodies, have previously provided funding for large scale studies into how libraries improve student learning.

3.1.4 Some of these studies have looked at the effect of libraries on student learning by running critical literature reviews, such as those by Williams (2001a, 2002) and Johnson (2004) in the UK, Gniewek (1999) and Haycock in (Nimon, 1995) in the US and Lonsdale (2003) in Australia. Similarly, others have run experiments in their own countries, such as Lance (2002) and Todd (2004a) in the US, Williams (2001b) in the UK and research in Australia into documenting learning (Todd, 2003: 17). However, this research is all variable and there are no fixed methods or techniques which yet exist that can be compared globally.

3.1.5 Some researchers think that there will never be a global method due to variable educational systems, varied cultures, wide differences in national and regional policies, differences in language leading to changes in participant response and the effect of different advocacy groups in different areas (Lonsdale, 2003).

3.1.6 However, the existence of difficulties in international comparison at least gives a starting point for many studies, as it points to a preference for local or national research (Oberg in Lonsdale, 2003). Welch (2002: 7) suggests that “local level evaluation of outcomes may prove to be one of the most valuable measurements”.

3.1.7 There are also calls to adapt US-based studies into UK equivalents, one example being Lance’s methodology (2001), which would fit quite well into the secondary education system that boasts a shortage of research in this area.
3.1.8 Finally, Markless (2001) points out that, as the proportion of students to librarians in any community is likely to be large, so the impact of a single school librarian could affect a large body of students. So with this in mind, it seems logical that any changes proffered by research into how libraries impact on student learning outcomes should be focused on measuring the most effective factors so that positive change is constructive and efficient.
3.2.0 How do we measure learning outcomes?

3.2.1 Success within schooling does not always lead to equivalent performance outside school (Brown, 1989) and so if we are to measure the effect of libraries on learning outcomes, we need to assess more than just formal schooling methods. Which is why student learning is referred to as ‘learning outcomes’ in this study, because the study is not just measuring academic learning. Any study of a library’s effect on student learning should thus include a far wider remit regarding the meaning of learning.

3.2.2 The learning being measured should not just be limited to test results, but should include a range of experiential, knowledge-based and practical skills that are picked up throughout the life of the student, both outside and inside school. The skills are thus identified through a more constructivist viewpoint than via a standard academic outlook.

3.2.3 In line with these ideas, most influential studies have focused on measuring the impact of library policy and practise in terms of how libraries affect student ‘outcomes’, rather than how they affect the ‘output’ of the student (Gniewek, 1999, Johnson, 2004, Lonsdale, 2003, Wavell, 2002, Williams, 2001a, 2002). An example of such an outcome-based study is shown here:

- A student indicates during an interview that, in a chat with the librarian, they discussed using other peoples work to form their own opinions. The student then shows the interviewer an essay in which they critically assessed someone else’s work by drawing on other references that they had previously read. They then say that they got a better mark than usual as the teacher had never seen them apply this skill before.

Continued on next page.....
• The interviewer notes in their records that the librarian has been able to help the student apply specific information skills; evaluating and using sources. This is an indicator as it indicates that the student has applied new skills.

• The indicator shows that the student is showing progression in their work thanks to a chat with the librarian. This librarian-led progression is an outcome.

• When the student shows their parent the increased score they got in essay. This score is an output.

3.2.4 Although outcome measurements are not normally as simple as this. For although the librarian has had a chat with the student, there is no indication as to whether such chats are a regular occurrence; or if the chat was part of a carefully planned program led by librarian-teacher collaboration; or if the student will continue to produce such work.

3.2.5 For an outcome study to be effective, it needs to gain as much information as possible regarding the background work that has led to the outcomes, so that it can properly assess whether the library policies are really helping, or just hindering, the learning outcomes.

3.2.6 Such a study would thus be looking for more than just indicators that students are learning skills, it would also attempt to interview the library staff and teachers to ascertain indicators at their level. If such a process then found that librarian-teacher collaboration was ongoing in that class and that the student was involved in an IL skills program which stemmed from that collaboration, then:

• The IL skills program would be an ‘indicator’ that
• the collaboration between librarian and teacher was creating an ‘outcome’
• that produced the ‘learning outcome’ that the student exhibited.
3.2.7 So by studying the student, his teachers, the library and anything else that affected the resulting outcome, the research would be able to give a measure of how effective the library had been in that instance at improving that student’s learning outcome.

3.2.8 However, some highly referenced works do not necessarily follow the perceived wisdom that output-based research must be avoided. For instance, Keith Curry Lance is recognised as being one of the foremost researchers in the field. In his research he attempts to involve both outputs and outcomes to gain his measurements.

3.2.9 Lance’s original Colorado study (2001) concluded that the size of the library, in terms of its staff and collection, were a direct predictor of norm-referenced reading test scores (an output measurement). In this way, he used output measurements to identify outcomes. He also said that he was able to factor out the effects of community and school differences, thus making reading test scores more reliable as a predictor of educational attainment.

3.2.10 However, the output that Lance was studying was a reading test score and as Williams (2001a) has already indicated in Section 3.1.7, using test scores as indicators of educational achievement can bias the results towards students who do better in tests (Nimon, 1995, Todd, 2003, Lonsdale, 2003, Wavell, 2002). Vallender (2000) also concluded that statistical (and by definition, most quantitative) analysis of exam results was insufficient to show the contribution that school libraries made.

3.2.11 Other of Lance’s detractors point out that norm-referencing tests are a less authentic assessment technique than many and so the results of the tests themselves may be suspect (Wavell, 2002).
3.2.12 Although Smith in (Lonsdale, 2003) ran a study based on Lance’s model and found that his experimental results produced seemingly viable outcomes. Smith ran his results using the Texas Assessment of Academic Skills (TAAS) tests, instead of Colorado states CAT tests. In an attempt to support Lance, Smith concluded that:

“…while a causal relationship between school library activity and TAAS performance cannot be ‘unequivocally proven’, such a relationship is ‘highly plausible.’” Smith in (Lonsdale, 2003: 17).

3.2.13 But ‘highly plausible’ still leaves room for doubt that test performance could give unreliable results. So even though the sheer body of evidence that Lance’s studies have produced is hard to argue with; he has run his studies in eight US states and a number of other researchers have also done similar (Lonsdale, 2003); there are still some who are unsure about the method (Nimon, 1995, Williams, 2001a).

3.2.14 Nevertheless, assuming that Lance’s methodology is sound (as many researchers do), it is still the largest study to have measured library effect on academic achievement and has found a specific group of indicators that it says affect educational attainment more than any other. These indicators are collaboration with teachers in instructional units, providing information skills training for teachers, regular meetings between librarians and teachers and planning programs that link in with ICT (Lonsdale, 2003). Although Lance finds that teacher: pupil ratio and school funding are seen as more influential indicators in improving learning outcomes.

3.2.15 Williams (2001b) study into Scottish resource centres was an outcome-based study and still found a link between improved learning outcomes and teacher-librarian collaboration. So it is obviously possible that two separate ways of studying librarian impact on learning outcomes (output/outcome-based or outcome-based) can still produce the same result.
3.2.16 However, the issue is not whether a study sometimes gets it right, but whether the design of the study will mean that results will nearly always provide a measure of the effect of the school library solely in relation to its effect on learning outcomes. Furthermore, because there is uncertainty regarding output-based assessment, it seems that it is best avoided so that the uncertainty does not get a chance to be raised as an issue.

3.2.17 Using an effective measurement tool is therefore vital if results are to be trustworthy. Moreover, this tool needs to be able to identify the indicators that affect learning outcomes so that such
3.3.0 Finding the correct indicators

3.3.1 Both Williams (2001b) and Streatfield (1994) point to the fact that many qualitative studies will depend for their data on the experience, knowledge, values and professionalism of the participants and researchers, so results can be different for each person and for each school studied. Based on such a localised response to any study, it is thus important to design your impact factor measurement to assess impact of locally important indicators.

3.3.2 The original Colorado study (Lance, 2001) missed out on a number of locally important factors, such as data on teaching styles, student turnover rate, IL teaching methodologies, collaboration amongst teachers and librarians and the role of technology in schools (Lonsdale, 2003). So although Lance said he had factored out the effect of community predictors, he had missed a number of them. It is thus interesting to note that, when factoring in the community predictors that he had missed in the first study, Lance’s second Colorado study (Lance, 2001) found that collaboration between library media specialists and teachers increased achievement for students.

3.3.3 So by adding a factor to his study (collaboration measures) Lance had found a corresponding result, or indicator, that linked to that factor (collaboration increased achievement). Examples of the collaboration he refers to include, providing information skills training for teachers, regular meetings between librarians and teachers and planning programs that link in with ICT. These seem to be logical indicators for improving learning outcomes, but as Lance used test results as indicators of achievement, can we really be sure that the collaboration does make a significant contribution or does the bias of the test results still affect the conclusions?
3.3.4 It seems that the more factors Lance added to his study, the more detailed knowledge he gained from his results. But if he found new information just by adding a new factor into his study, how many do we need to add before we measure the effect of the school library solely in relation to its effect on learning outcomes?

3.3.5 This great range of factors tends to be a feature of many of the larger-scale studies (Lance, 2001, Whelan, 2004, Todd, 2004a), in that the more data you reference and the more studies you run, the more you learn about the effect of your school library on learning outcomes. An idea of the range of factors and methodologies on offer can be found by studying the larger Critical Desktop Reviews and the papers to which they refer.

3.3.6 Williams (2001a) literature review suggests that, according to her review, the majority of studies looked at the library effect on learning by studying:

- Academic achievement (test scores).
- Broader learning issues (personal achievement in learning).
- Professional practice (qualifications, experience and attitude of staff).
- Service provision (collaboration between school and library, general support).

3.3.7 The shape of a research study can also be affected by how you choose to group the factors. In Lance's (2002b) literature review, he grouped the studies by subject, including school/public library relationships, effects of flexible scheduling and the role of technology. This shaped the emphasis that Lance’s subsequent review focused on.
3.3.8 Todd in Lonsdale (2003: 31) identified the following as particularly important indicators in improving learning outcomes for students:

“A shared educational philosophy centring on enquiry learning, systematic development of students’ IL skills, development of students’ information competence via flexibly delivered classroom instruction, active reading programs…, vocabulary development and language skills; and successful school library programs that set clear expectations and gather feedback from students and teachers”.

These indicators are the sort that give the most relevant feedback, because they provide more detailed goals that can be actioned, such as systematic development of skills. All they then require from a librarian is a change in focus, rather than having to gain extra funding before the work can go ahead.

3.3.9 The Library Power Initiative (LPI), which was based in the US and involved putting larger than usual funding into library programs, provides a wide variety of indicators that affect learning outcomes. These include collaboration, flexible scheduling, alignment of curriculum demands, improved library collections and facilities, professional development for teachers and a student-centred approach to learning.

3.3.10 But Wavell (2002) has reservations regarding the LPI studies, as their concentration on increases in funding may have had an overarching effect on the results. For example, teacher development and large increases in facilities and collections are three of the influencing indicators in the LPI studies, but the average library would require large increases in funding to pull such changes off. There are obviously other changes that do not require this that are identified by LPI, but by focussing on funding increases at the beginning of the study, the results can be biased towards schools with larger budgets. Some libraries could use LPI as a justification for increased funding, but for
many libraries the results are impractical as they can only occur if funding increases are available.

3.3.11 This points to another issue when identifying indicators, which is that any work used to identify them must be lacking in bias from the outset, or the results could lead to impractical, or even incorrect indicators being identified.

3.3.12 Small scale experimental work by Williams (2001b) suggests that the indicators that you choose need to be appropriate to the type of information, library service or educational programme that you are studying, as well as the learning environment. So although she lists academic achievement as an indicator in her review, we already know she disagrees with their use in the Lance (2001) study, so she would be unlikely to have considered test results as ‘appropriate to the type of programme’.

3.3.13 The indicators she chose to study were provision of information; instruction in information skills; individual advice in handling and presentation of information; advice and support in planned curriculum activities; promotion of reading for pleasure; after-school activities and clubs; professional development support for teachers; social support outside timetabled classes and opportunities for library helpers. This then allowed her to tailor her research to the individual site she studied.

3.3.14 Williams assertion that local indicators are important occurs regularly in research. For instance, a study by Yoo in (Lonsdale, 2003) looked at reading levels, because Yoo had a number of students from immigrant backgrounds in her study sample, she chose to study second languages in her research. She concluded that the most important indicators of improved learning were improved reading skills, second language acquisition and student attitudes towards reading and the school library. Therefore, as Williams emphasises, Yoo chose to study indicators appropriate to her school.
3.3.15 If appropriate indicators are studied in an unbiased manner then unusually detailed results can be gleaned from studying seemingly obvious factors, such as a library’s effect on literacy. Elley (1992) studied literacy levels in relation to librarian influence in 32 countries. He found that larger classroom libraries were the major influencing factor in improving literacy. But he also found that, when factoring in economic and social conditions, the offering of access to books in the home via libraries, community libraries or book shops made little difference. This study is thus a ringing endorsement for classroom libraries over other forms of book provision.

3.3.16 Although Froese in (Lonsdale, 2003) found that borrowing books from school libraries improved literacy, whilst classroom libraries lacked the same impact on literacy levels, even though they had some impact. Furthermore, Elley’s (1992) study relied on reading test scores as indicators, so do we trust the output indicator?

3.3.17 Different studies can thus disagree with each other as to what the most influential indicators are and this shows that many studies are locally important, but nationally incomparable. Which leads to another issue, because it seems from the literature that a plethora of indicators have been identified as useful and tangible improvements to student learning outcomes.

3.3.18 However, because many of these indicators are locally significant, can the design of methodologies be anything more than a bespoke solution to a local study?
3.4.0 Designing a methodology to study learning outcomes

3.4.1 The methodological designs used to measure student learning outcomes are just as varied as the indicators they have identified.

3.4.2 Todd looked at research which he describes as “currently under way in Australia” (Todd, 2003: 17), by grouping its measurement methods into assessment tasks, feedback tasks, rubric measures, interview measures, formal surveys, portfolios, general demographic data and small projects. This covers most of the measurement methods in existence, but does not describe how they go about identifying tangible indicators of assessment.

3.4.3 Williams (2001b) fully qualitative local survey of the views of Scottish schools ran focus group interviews of teachers, librarians and pupils to identify their perceptions of a School Learning Resource Centre (SLRC). She also identified indicators that could show the impact of the SLRC on learning outcomes and, having identified potential indicators, she then organised case studies to assess the impact of the SLRC on learning and ran further evaluations to verify and refine her original work.

3.4.4 By identifying relevant indicators at the start of the study, Williams has created a methodology that works well in locally variable environments. This is a feature mentioned by a number of papers on impact indicator measurement (Markless, 2001, Johnson, 2004) and is also utilised by a number of researchers during their studies (Lance, 2002a, Wavell, 2002).

3.4.5 Her use of qualitative reviews also provides for the opportunity to learn new information that could be hidden if the study just involved quantitative questioning. This is because the open-ended nature of qualitative questioning enlarges the scope of responses, as the previously mentioned Second Colorado (Lance, 2001), Yoo in (Lonsdale, 2003) and Elley (1992) studies have shown.
3.4.6 A quantitative study could miss this new information if it does not provide some form of qualitative feedback. Feedback is also vital to improve the methodology as Williams (2001b) has recognised, as it allows refinement of the methodology by assuming that the design is never perfect. In this field, it is also a useful way to match the design to the location as it allows changes to be designed into the method.

3.4.7 However, reliance on qualitative methodology and a changing design do lead to certain issues. For instance, if you change the design too much, then it becomes incomparable with other studies of its type.

3.4.8 Furthermore many qualitative methods require finding a population that has the time to be involved in, or is interested in, your study. This requires a contact who is already involved with the teachers in their school to a significant extent, as gaining teacher buy-in is vital for such studies to be effective (NERF, 2005b).

3.4.9 The problem is, that beginning a study to prove how effective you are requires that you already exhibit good collaborative links with staff. But in a school where little advocacy exists, getting teachers onboard may not happen. Furthermore, half of a librarian’s time in the UK is spent on administration, one quarter on teaching and a small amount on IL training (NERF, 2005a), so where does a librarian’s time come from to help in such a study?

3.4.10 Koechlin (2002) suggests that one way to attract people to research programs is to bring the joy back into learning. She says that assessment-type research is ‘undeniably critical to teachers’ and that assessment should change from the standardised responses that pupils and teachers are used to automatically filling in, to becoming real-world examples that are far more engaging.

3.4.11 This approach mirrors the real-world practice inherent in constructivist ideologies (Grabinger, 1995) and allows students and teachers to personalize the research, thus creating more relevant feedback. Furthermore, librarians should be aware of constructivist teaching methods already, because they are
a fundamental part of many IL programs (Lonsdale, 2003, AASL, 1998, Kuhlthau, 1993). Thus real-world designs for research projects should hopefully be a more accessible goal for those practised in constructivist training.

3.4.12 The CILIP advocacy strategy first identifies messages, then creates strategies to sell the message and finally, collects evidence to support it (C.I.L.I.P, 2004c). Though deciding on a message before evidence has been collected could lead to a message with no experimental backing, so use of this model needs to be thought through carefully. This design, based on the I. M. A. (2004) method, has also been adapted to become an assessment tool by the DfES (DfES, 2004). Dixons and all other schools are being advocated to use this method, it is large scale and seems to cover most issues, but the teachers at Dixons are finding it a herculean task to begin.

3.4.13 So if you cannot get your study group to set aside time, what can you do? The most effective qualitative methods unfortunately require time to be effective and even if you use time-saving methods, such as the provision of focus groups (Stone, 1984), some teachers will not have the time to set aside.

3.4.14 Todd provides a design more suitable for teachers with little time to set aside, because the pupils only input is to fill in a short questionnaire (Appendix 3.4.14). This questionnaire lists a range of ‘helps’ statements based on Dervin's (1992) ‘helps’ concept. This concept suggests that situations arise where our understanding is incomplete and we need to make sense of the new knowledge by asking questions and formulating new ideas. The ‘helps’ are what is done to bridge the gap between old and new knowledge. Todd’s questionnaire provides these ‘helps’ by making statements and then asking the questionnaire participant how helpful the library (or librarian) has been in providing a solution to the statement. For example:

Ref: Appendix 3.4.14

<table>
<thead>
<tr>
<th>71. The school library has helped me do my school work better</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21.5</td>
<td>21.7</td>
<td>21.1</td>
<td>20.4</td>
<td>15.3</td>
</tr>
</tbody>
</table>
3.4.15 Todd created 48 statements and 2 open-ended questions, totalling 50. The statements are based on Todd’s view of the main indicators that can affect learning outcomes via librarian and library intervention, and because Todd has a good deal of experience in this field, the statements cover most eventualities (see Appendix 3.4.14 for the whole list of statements). Although there are no statements to cover the issues raised in Sections 3.6.2, 3.6.3 and 3.6.5, so Todd does not cover all the bases.

3.4.16 However, Todd makes an excellent attempt at providing a comprehensive range of statements and splits these into 7 main themes that are based on conceptual categories relating to ‘How helpful the library is with’:

1. Getting the Information you need.
2. Using information to complete your school work.
3. Your school work in general.
4. Using computers in the library, at school and at home.
5. Your general reading interests.
6. Helping you when you are not at school.
7. Improving academic achievement.

Ref: (Todd, 2004a)

3.4.17 Todd also creates a range of participant responses, from ‘Most Help’ to ‘Doesn’t Apply’, on a sliding Likert scale, that provide a form of qualitative answer to the question of how much the library helps with the main indicators inherent in improving learning outcomes. He also provides two open-ended questions, although these really just provide a list of subject groupings and classes that children have accessed via the library.

3.4.18 To provide an even more open-ended response, Todd also added a free writing question (Todd, 2004a) and asked some students in the sample to provide free-writing replies to each of the questionnaires 48 statements.
This gained a lot of feedback and required little extra time from the pupils who answered the free writing question, whilst allowing for schools that had the time to answer the free-writing replies. It is a simple way of getting the largest scope possible from a range of schools.

3.4.19 With Todd’s questionnaire, it thus becomes more likely that small scale studies are possible on a short time frame as it provides most of indicators that are available for study, and the open ended responses hopefully elaborate the rest.
3.5.0 Relying on children to answer research questions

3.5.1 There is a strong message regarding using children as advocates for their own assessment. The DfES has produced a report entitled ‘Learning to Listen’, with cross-government support, which says that young people should have a say in the services they use. This concept is also recognised by the UN, as a report in C.I.L.I.P. (2002:6) suggests:

“… in Article 31 of the UN declaration of the rights of the child [the] declaration also confirms that they have a right to be consulted directly about their views.”

3.5.2 Whilst Framework for the Future (Demos, 2003) talks of redefining the relationship which libraries have with young people and suggests a ‘Phase One process’ that is structured around three main themes, two of which are relevant here:

• The needs of young people from 11 to 19
• The strengths of library services in responding to these challenges

So young people are very much seen as being at the heart of library provision and it is suggested that they should also be at the heart of any assessment.

3.5.3 However, can children effectively answer questions given to them during research studies, especially considering that the design can influence the answer.

3.5.4 For instance, Todd (2001a) starts questioning children as young as 7 and whilst Piaget says that children at this age begin proper development of their language and reading skills (Furth, 1970), Flavell (1993) finds that 7yr olds tend to be literal in their interpretation of words and Holaday (1989) finds
that such literal interpretation lead to confusion with vague and ambiguous wording.

3.5.5 Thus 7yr old participants could probably follow the text in questionnaires, but whether they could make informed judgements and provide well-conceived responses to the open-ended questions (or statements) that are prevalent in qualitative questioning, is unlikely in every case. Borgers (2003: 2) says that:

“offering vague quantifiers in questions about the frequency of behaviour produces difficulties for children because they need clear definitions” and that this is also the case for “partially label[led]ed options, which lack clear definitions of the offered response options...because the children have to interpret and translate the label[led]ed options themselves” (US spelling adjusted).

3.5.6 So a questionnaire for 7yr olds is thus likely to be more effective if it provides feedback and explanation of its response options to help answer the questions. Todd (2004a) provided a general indication of what each ‘help’ response meant during the questionnaire process, but the lack of a ‘No help’ response and its effective replacement with ‘Does not apply’, meant that the lack of a negative response option could have led to ambiguity and a failure to interpret the correct answer.

3.5.7 As children get older, their understanding develops, but pose children of 9 or 10 a problem involving complex questions and they often possess a simplistic world view (Winston, 1998). So complex qualitative questions could still create ambiguous responses for this age group.

3.5.8 By 11-15 years of age, cognitive understanding is far more developed so that children can employ reasoning based on hypothetical situations and understand formal questioning (such as that found in questionnaires), although context can sometimes cause problems (Borgers, 2003). Teenagers
of 16 upwards are considered adults in terms of survey research (Borgers, 2003).

3.5.9 However, research by Borgers (2003) has shown that difficult question formats produce difficulties for children from 8-16. Borgers method employed 3 types of question format:

- Completely labelled vague response options (i.e. never, rarely, sometimes, often, very often).
- Partially labelled vague response options (i.e. never, , , , , very often).
- Completely labelled clear response options (i.e. never, less than once a month, about once a month, once a week, daily).

3.5.10 Borgers found that older age groups (above 10 or 11yrs) did not necessarily do better when response options became vague. But when completely labelled clear response options were given, the older children were the only participants that benefited. Which means that children below 10-11yrs old often give a superficial (educated guess) response that seems to be a reasonable answer, even if they are given very clear guidelines; this approach to questioning is known as ‘satisficing’ (Borgers, 2003).

3.5.11 To solve the satisficing issue, De Leeuw in (Borgers, 2003) suggests studying the effect of answers over time. This is because:

“Offering vague quantifiers and partially labeled response options should produce less stable responses because [the] questions require logical and abstract thinking, which should lead to more variable responses over time” from those who are satisficing, De Leeuw in (Borgers: 3).
3.5.12 However, when Borgers attempted to study this, she found that satisficing was difficult to establish, even if the questioning occurred over greater periods of time. This could be because, although the satisficers get tired of guessing a response over longer lengths of time, the logical thinkers also get tired over time and as concentration drops, their responses become less logical.

3.5.13 Suggestibility in interviews in the US also seems to increase with youngsters if the interviewer is adult, although in Brazil it decreases (Dias, 2004). So designing a study to remove the tendency of younger children (and bored adults) to satisfice, is not simple.

3.5.14 Although Thomas (2000) allowed children to contribute to the review and analysis of his study by engaging the children in repeat interviews, group discussions and by entrusting them with power over the tape recorder. He found that it made data interpretation more authentic when the children produced analysis from their own perspective, and that they engaged more with the study. Furthermore, De Leeuw in (Borgers, 2003) found that the use of computer-assisted questionnaires produced clearer responses from children in survey work. Both methods would be practical responses to Koechlin (2002) (Section 3.4.10).
3.6.0 Further Research

3.6.1 Given the number of research papers that have occurred, there are still a surprisingly small number of studies into secondary schools, although this has increased recently in the US, with Todd (2004a) having based his research on 13,123 individual 7-20 year olds; their average age being 14 and thus mostly secondary. This area is of particular significance because Lonsdale (2003) suggests that library impact on student achievement is said to be more influential at primary level and as students get older, the effect of libraries decreases. However, there is little evidence to back this up, but if it is the case, it recognises a need for increased support at primary level to ensure that skills are covered before interest is lost. Or it points to a need for research into why interest in libraries is lost as students get older and finding a possible solution to the issue.

3.6.2 Another area of under-representation tends to be on the intangibles such as motivation (Williams, 2001a). Or in sub-group studies, such as how librarian learning disability support affects learning-disabled student outcomes, although reading skills research by Yoo in (Lonsdale, 2003) included the learning disabled in its remit.

3.6.3 Furthermore, little work has concentrated on the before and after effects of student learning after implementation of an IL skills program developed from integrated curriculum collaboration (Lonsdale, 2003). Whilst studies should also be run to detect vague identifiers or response option issues within present day research.

3.6.4 There are also few English studies, whilst even fewer of the recognised research initiatives from the US have been brought over to the UK and anglicised (Williams, 2001a, Wavell, 2002).

3.6.5 Work into how the positive effect of librarians can be advocated to parents, teachers and administrators is also of vital importance if the concomitant
improvements are to be of any use as advocacy. Hartzell in (Lonsdale, 1993) has made a start by explaining why a librarian’s effect on student learning goes unrecognised, but he suggests little in the way of redemption.

3.6.6 On a similar subject, there is little work in the literature that trials the Koechlin (2002) or Thomas (2000) child-friendly research designs. They may seem to run against logic, especially given Borgers (2003) recognition of satisficing during survey work, but as Koechlin points out the children will become more interested in the research if they enjoy it more.
4.0 METHODOLOGY

4.1.0 Methodological design

4.1.1 The methodology will apply an inductive approach and use triangulation from both qualitative and quantitative research to investigate the aims and objectives.

4.1.2 The approach for this research was undertaken in 4 phases:

1. Critical Desktop Review: to identify the main factors that affect student learning outcomes in a school library and to identify a technique in the literature that attempts to measure these factors. This will be the Literature Review.
2. Selection of school sample sets: involves identifying a demographic group that meets the identified technique’s ‘Criteria for Selection’ and obtaining a sample set from that population (Appendix 4.1.2).
3. Quantitative sampling: sampling the demographic group by use of a questionnaire from the technique (Appendix 3.4.14).
4. Qualitative sampling: devising interview strategies to aid in analysis of the results from the questionnaire (Appendix 4.1.2). This will occur after the quantitative results are in and have been analysed so that relevant questions can be formulated in relation to the results.

4.2.0 Critical Desktop Review

4.2.1 The literature review indicates that qualitative research that focuses on finding indicators that lead to improved student learning outcomes are probably the most effective measures of how librarians affect learning outcomes. Furthermore, gaps in the research indicate that studies into UK secondary education will be of particular use. There is also a call to adapt US research into UK models, to assess how well such models deal with effective indicator identification, to avoid satisficing, suggestion and other vague responses in methodological design, identifying sub-group issues, targeting older student apathy in results, encouraging teacher and librarian involvement and targeting outcome vs. output related design.

4.2.2 This paper could add yet another design to the growing collection, but it seems more productive to assess one of the more influential designs by testing it for the factors identified in the literature review and comparing the test to the original.

4.2.3 When choosing which design to use, it was recognised that the majority of the influential designs are large-scale and outside the timescale of a Masters dissertation. However, both Williams (2001b) and Todd (2004a) could be replicable, although both studies required the use of boards of experts to decide upon factors such as sample population, so an equivalent to such groups would have to be provided.

4.2.4 Both designs have already been covered in the literature review, but their most salient features will quickly be covered for comparison.

4.2.5 The Williams (2001b) study is relatively small-scale, uses many of the recognised features of a good impact assessment (such as qualitative research into case studies and focus groups) and looks at secondary schools (of which there is a dearth of information (Lonsdale, 2003, Wavell, 2002). It would therefore make a good research study.
4.2.6 Todd’s design (2004a) involves a questionnaire that is based on ‘helps’ statements that are designed around the most significant indicators identified by other impact studies. Furthermore, the questionnaire can be answered in about 50 minutes and this thus leaves plenty of time for examination of results and analysis of research design. Todd also provides a detailed breakdown of his results online (Todd, 2004b, Todd, 2004d), which means that detailed analysis between the original and the new study can occur. Todd (2004a) is thus just as useful as Williams (2001b) for comparison.

4.2.7 The decision of which study to choose was eventually based on access to the sample population. This is because both Todd and Williams included secondary pupils in their research and if the study was to be comparable, it also needed secondary students. However, as research could only begin after ethics approval had occurred in late May, this meant that exam and end-of-term pressures could limit access to these secondary pupils and thus affect the research. The Todd study was thus chosen over the Williams because Todd required far less fieldwork time and was likely to be more manageable if restrictions occurred in regards to student access.

4.2.8 This study will therefore be focusing on the Todd (2004a) US methodology for secondary school research and will also be running a qualitative evaluation of the Todd methodology so that it fits into UK institutions.
4.3.0 Identifying school sample sets

4.3.1 For any experimental procedure, a standardised study group is preferable because this allows for further comparative research (Gorman, 2005). Todd’s ‘Criteria for Selection’ (Appendix 3.4.14) was chosen to provide a set of standards by which a study group could be ascertained.

4.3.2 However, there were likely to be issues regarding certain US or Ohio-specific criteria in Todd’s study that could not be comparable with UK equivalents. Furthermore, some criteria need to be explained so that they are understood by a non-US audience. These issues will thus be covered in this section, whilst the ‘Criteria for Selection’ by which the final school sample was chosen will be shown in the Results section.

4.3.3 Todd’s first US-based criteria is that “the school building includes at least one of the K-12 grades” (Todd, 2004c: 24). This is easily clarified, as K-12 is US parlance for ‘Kindergarten to twelfth grade’ (from 3-18yrs of age) and thus covers nursery, primary, secondary and A-level education in the UK (United States Department of Education, 2004). Comparison between Todd and this study will thus be maintained as long as the data set includes KS1 – KS4+ pupils.

4.3.4 Todd (2004a: 11) also says that “the school must have a building IRN number with the Ohio Department of Education”. An IRN Number is an ‘Information Retrieval Number’, which is used as a shortcut to that particular school building when looking for data. IRN is therefore the equivalent of the DfES LEA Number (Bradfords LEA number is 380), which is used to identify schools (DfES, 2004a). The IRN number thus has no effect on comparative research as long as the data in IRN is retrievable in some other way in another country.
4.3.5 In terms of possession of a 2002 District Report Card rating, which Todd requires in his ‘Criteria for Selection’, this is the method by which the Ohio Department of Education records data on schools, an example is given in Appendix 4.3.5 The information is similar to the DfES school statistics (DfES, 2004b), although the Ohio data is more informative and gives a wider range of information. Todd’s main concern in his papers seems to have been to study gender, ethnicity, age, academic performance and location of his data sets. To get the equivalent data for our study group, sources were found for ethnicity, academic performance and location data, with gender, age and ethnicity being gained from either the questionnaire or interviews. The issue of racial type was raised with Dixons CTC, but they requested that this not be recorded. The information required by a District Report Card was thus mostly covered.

4.3.6 A 3-month Masters would be unable to field a nine-member International Experts Panel to ascertain whether the chosen site matched the Ohio definition of ‘effective school libraries’, which was how Todd identified his 39 school data sets (Todd, 2004a:11). To create the equivalent of the nine-member Experts Panel the required information was gained through 4 procedures:

1. As Todd based his choice on ‘high achieving’ libraries (Todd, 2004a), DfES statistics on exam grades were studied as an initial method to identify high achieving schools in the area.
2. Initial interviews were conducted with the librarian to identify whether they felt their site matched the ‘Criteria for Selection’. This involved e-mailing the school the ‘Criteria for Selection’ prior to interview, so that the librarian could prepare proof and then be interviewed.
3. A site inspection, to check that the library met the ICT and location-based Todd criteria.
4. As a tutor in Librarianship and thus a person with knowledge of a number of libraries in the local area, nationally and internationally, my dissertation tutor was also consulted regarding whether the chosen sites fitted Todd’s ‘Criteria for Selection’.
4.3.7 The ‘Criteria for Selection’ also states that librarians need to be ‘certified library media specialists’ and so an equivalent needed to be defined for this in the UK (Todd, 2004c: 24). The definition was based on the media specialist skills and ICT categories that Todd identified within all 5 of his ‘Criteria for Selection’ (Appendix 4.1.2). This meant that ‘certified library media specialists’ were capable in the use of ICT and employed it in media programs, IL skills instruction, class and teacher support and for general library use and information dissemination.

4.3.8 Whilst the final criteria is that the library has to be in the building.
4.4.0 Quantitative sampling: Questionnaire

4.4.1 The questionnaire used within the study was closely based on Todd’s (Todd, 2004b) methodology. Todd’s original questions were split into the *Perceptions of Learning Impact Survey* for staff and the *Impacts on Learning Survey* for pupils (Todd, 2004a). Todd also expanded this information by adding a free writing question for more qualitative responses (Todd, 2004a).

4.4.2 As the study was meant to be a comparison of the original Todd analysis, the questionnaire for the study used the original 50 statements suggested by Todd for both *Impact Surveys* (2004a). However, the extra 9 questions that Todd had recommended for further study (Appendix 4.4.2) were not included, even though Todd had suggested that they be added to further research (Todd, 2004a). It was felt that adding the extra 9 statements would make the questionnaire different to the original 2004 study in terms of increased length and that different questions on the questionnaire could influence and thus change answers. At the time, it was also felt that the questionnaire was already too large, at 50 responses.

4.4.3 The order in which Todd’s 7 main themes occurred would make less difference to comparison, as long as the themes remained the same and the identical (though anglicised) statements occurred within each theme. The themes were thus adapted from Todd’s original web-based design into the following order:

<table>
<thead>
<tr>
<th>Theme subjects</th>
<th>Todd's original theme order</th>
<th>Dixons CTC theme order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting the Information you need.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Using information to complete your school work.</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Your school work in general.</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Using computers in the library, at school and at home.</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Your general reading interests.</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Helping you when you are not at school.</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Improving academic achievement.</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4.4.3: Todd’s themes vs. Dixons CTC adjusted themes.
4.4.4 This meant that the themes followed a more logical progression, based around similar subjects that covered general subject skills:

<table>
<thead>
<tr>
<th>Dixons CTC Theme composition</th>
<th>General subject skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Getting the Information you need.</td>
<td>INFO SKILLS</td>
</tr>
<tr>
<td>2. Using computers in the library, at school and at home.</td>
<td>INFO SKILLS</td>
</tr>
<tr>
<td>3. Your general reading interests.</td>
<td>READING</td>
</tr>
<tr>
<td>4. Helping you when you are not at school.</td>
<td>HOME AND AWAY</td>
</tr>
<tr>
<td>5. Using information to complete your school work.</td>
<td>ACADEMIC STUDY</td>
</tr>
<tr>
<td>6. Your school work in general.</td>
<td>ACADEMIC STUDY</td>
</tr>
<tr>
<td>7. Improving academic achievement.</td>
<td>ACADEMIC STUDY</td>
</tr>
</tbody>
</table>

Table 4.4.4: How the Dixons CTC theme relates to a range of subject skills

4.4.5 This design was instigated to keep the respondents thoughts on certain subject areas, moving from thinking about ‘Information skills’ through to ‘Academic study’ in a logical progression that made the questionnaire process less complex. But it should be noted that each theme has uneven numbers of questions (see Table 4.4.5):

Table 4.4.5: Question numbers allocated to each of Todd’s 7 Themes.
4.4.6 The questionnaire used during the Dixons CTC study (see Appendix 4.4.6) varied from the original Todd research (Todd, 2004a) in a number of important respects:

- The questions were anglicised.
- The questionnaire included two further questions that asked respondents their opinions regarding the questionnaire itself.
- The processes and procedures used during the study varied from Todd’s version so that they fitted into a UK curriculum.

4.4.7 In terms of the statements, a number of the questions were aimed at a US audience and needed anglicising, for example:

Q42: The school library has gotten me more interested in computers
became ↓

Q9: The school library has made me more interested in computers

4.4.8 The two further questions that asked respondents opinions were designed so that there were negative answers available, as opposed to Todd’s ‘helps’ range which avoids negative responses:

4.4.9 The two open-ended statements in the questionnaire (Statements 21 and 37) were not that relevant to a study of the questionnaire process, except to indicate that a range of responses occur from the open-ended questions. Interviews were expected to cover far more.

4.4.10 The processes and procedures that the questionnaire was designed around were based on the local needs and timetable of the school and staff. For instance, the pilot questionnaires were sent to the librarian, who then liaised
with the teachers and replied back. A pilot test was thus never run with pupils present, this was due to timetable restrictions mentioned in Section 4.2.7.

4.4.11 The ICT Co-ordinator noted that, for a web-based study to work (as per Todd, 2004a), all the pupils would need to remember their logons on the day and all the pc’s would need to be functional, something he could not guarantee. Furthermore, he felt that although there were enough pc’s in the school for the test to last one week (the timetable allocated by the school), they were spread across many classes and it would have been impractical to get every student on a pc. So a paper copy was created. It should be noted that Dixons CTC has a larger than usual number of pc’s for a school, so it is likely this situation would recur in other sites.

4.4.12 The questionnaire was designed to fit onto 2 A4 sides (see Appendix 4.4.6). There were a number of styles trialled, but teachers and librarians decided that the number of questions was large, and fitting the questions onto 2 A4 sides was likely to make the number seem smaller.

4.4.13 The school runs Tutorial and Guidance sessions 4 times a week in the last period of the day, these were used by all but one class as the time to fill in the questionnaires, one class completed them in an English lesson.
4.5 Qualitative Sampling: Interviews

4.5.0 Background

4.5.0.1 The interviews were run after the questionnaire results had been studied. This was so that the qualitative side of the study could be used to analyse issues raised during the questionnaire process which could not easily be explained by analysis of the quantitative data.

4.5.0.3 However it should be noted that for reasons explained in Section 4.2.7, the time allocated for pupil interviews was small and so only a small selection of questions were able to be asked. This meant that questions had to be targeted at the most common issues and so the interviews were used to analyse 3 areas raised during the questionnaire. These were:

1. Gaining knowledge of the respondents views regarding design and utilisation of the questionnaire.
2. Gaining knowledge about the respondents comprehension regarding questions covered in the questionnaire.
3. Ascertaining the actual background knowledge that respondents possessed in terms of the subjects covered in the questionnaire.
4.5.1 Data Analysis

4.5.1.1 Tape recording was used for a number of interviews but due to the style of the questions, it was felt that transcription of the results would waste time and that analysis using 3 qualitative research methods would be more effective. The methods used were:

1. Coding Gorman (2005:212) was used to identify general responses that occurred during interviews. No specific coding framework was used in line with Bogden's (1975:120-121) assertion that there is no such thing as a one-coding-formula-fits-all coding scheme and that researchers should provide a coding framework unique to their own data. The coding framework provided for this research was based on Todd’s 7 main themes (Section 3.4.16) although 8 coding themes eventually existed as some interview answers did not fit and so an additional theme, ‘Library Provision, was added. The coding tool used was ‘Smart Ideas 3.1’, a mind-mapping software that was particularly well-designed for coding the non-linear way in which interviews proceed (Appendix 4.5.1.1).

2. The ‘Find’ tool (MS Word 2000) was used in amongst this text to run word string searches to look for words or phrases that occurred regularly and a general visual search was run through the text as well.

3. Content Analysis (Gorman, 2005: 214) was applied to teacher and pupil interviews as these provided a large amount of feedback and also involved set questions with definite answers (Appendix 4.1.2). The set questions were more quantitative in nature, but Gorman (2005) says that when Content Analysis is used in conjunction with other qualitative methods, it offers a supplementary approach to text coding, which leads to more qualitative use of the results.
4.5.2 Storage and recording

4.5.2.1 During tape recorded interviews:

- Verbal permission was gained from the respondent on tape.
- The date, place and name of respondent were noted on tape.
- The end of the interview was noted by the researcher by noting the fact verbally and asking the respondent if they agreed.

4.5.2.2 Question sheets and tapes recorded the name of the respondent so that tapes could be matched to question sheets, the data was removed once matching had occurred.

4.5.2.3 All data was anonymised, individual names were removed, gender and age differences were not noted as they were in the questionnaire. The removal of these identifiers was because the number of respondents was small and anonymity could not be guaranteed if such knowledge was included.

4.5.2.4 Computerised data was stored on one standalone pc, in one university network folder, and was transferred from one to the other by a virus-checked PC pen. All virus and Spyware software was kept up-to-date during the project.

4.5.2.5 Tapes and paper questionnaires were only ever stored in the researchers home in a secure location, they were never viewed outside this location for reasons of anonymity.

4.5.2.6 Data will be destroyed 1 month after the completion of this dissertation in case it is required for assessment.
4.5.3 Individual Interviews

4.5.3.1 Individual interviews were designed for both teachers (Appendix 4.1.2) and pupils (Appendix 4.1.2), although the teacher interviews were the only interviews conducted because a booked session with two pupils was cancelled on the final day of interviewing, leaving no time to organise another.

4.5.3.2 The interview sheets were designed to answer a range of questions:

- As the Todd questionnaire asked a wide range of IL statements, the interview attempted to elicit responses to; assess the level of IL knowledge of pupils at different ages; assess the IL teaching abilities of teachers and; assess the IL programme by interviewing the IL Co-ordinator. This would make it possible to assess if the children were answering truthfully on IL questions.
- Whether the statements in the questionnaire were vague and thus likely to encourage satisficing reactions.
- Whether the length of the questionnaire was too long.

4.5.3.3 Questions were designed in line with Section 4.5.4.6, although the storyline option was not used.
4.5.4 Focus Group Interviews

4.5.4.1 Focus group interviews were chosen for pupils when it was realised that it was going to be difficult to organise individual interviews for pupils due to previously mentioned time constraints. Stone says that “a group interview may be indicated where it is important to obtain the responses of a large number of people but where time or the limited availability of the respondents prohibits individual interviews” (Stone, 1984: 21). Gorman (2005) expands on this concept by describing group interaction as encouraging a range and complexity of attitudes, as well as open-endedness, which can often widen responses. Groups were thus the most likely method of gaining the greatest response in the shortest time.

4.5.4.2 Furthermore, as ethics considerations meant that a teacher needed to be available at all times during pupil interaction, it was felt that using group interaction would encourage less constrained answers due to a more relaxed environment. Gorman (2005: 147) supports this by recognising that the transparency of group interviews (in terms of lack of complexity) makes the interview more relaxed.

4.5.4.3 Gorman (2005) also mentions that a problem with any group interview is finding the typical group. However, the people chosen for group interviews for this study were all pupils who answered the questionnaire and thus a focus group of the respondents who filled in the questionnaire. Furthermore, Stone (1984: 21) says that group interviews are easier to conduct when group members are of similar status and as this focus group involved pupils of the same age and from the same school, it was more likely to be controllable.

4.5.4.4 The eventual focus group numbered 8 pupils and were a cross-section of pupil ability (based on discussion with teacher).
4.5.4.5 However, Gorman also points to dominating personalities, wanting to agree and actually getting a group together as being limiting factors to any group interview. So these factors needed to be taken into account when organising the interview process.

4.5.4.6 The design of the group interview thus involved a number of question formats, so that it covered as many eventualities as possible. The formats chosen were:

- Putting questions to a vote; which gives a better idea of group agreement, but can lead to group-think. Also useful for quantitative results as it gives measurable results.
- Using storyline questions; which often leads to respondents recalling events and can produce a raft of information, or nothing! Often best to provide some time for respondents to allow recall to occur.
- Providing open-ended questions: this can initiate discussion, but feeder questions should be created so that if the discussion is stalling, it can be re-invigorated by adding them (feeder questions were identified by the term FEEDER on the question sheets, Appendix 4.5.4.6).
- Comparing questions from the questionnaire; to identify whether participants understood the questions correctly.

4.5.5 Ethics issues

4.5.5.1 For reasons of anonymity, each questionnaire was given a Participant Identification Number, whilst the year group and gender of respondents were also added as identifiers for comparison studies.
5. RESULTS

5.1 Criteria for Selection

5.1.0 Demographics

5.1.1 As this study is looking into the possibility of transferring the Ohio research (Todd, 2004a) across to UK institutions, analysis of the demographics of both Ohio Todd (2004b) and Dixons CTC was needed for comparison. With this in mind, this section includes demographics for both Ohio and Dixons CTC.

5.1.2 The site chosen was a City Technology College as it is a secondary comprehensive and thus comparable with Todd’s site (it has since become a City Academy). It is based in the Metropolitan District of Bradford:

Dixons City Technology College, Ripley Street, Bradford, West Yorkshire.

5.1.3 The choice of age groups was affected by the timing of the study. This is because the University of Sheffield requires that all research be given ethics approval before studies are begun and the ethics procedure is designed to provide earliest approval around June. However, as most secondary schools in the area would be holding GCSE and A level exams around June, this would likely preclude students of 16 and 18 yrs of age from being included in the study. As Todd’s sample population was aged between 12-18yrs (Todd, 2004b), this was likely to exclude 28% of Todd’s most common age groups from the sample. Furthermore, by mid-June the majority of A level students would have left for holidays and by early July most schools would be closed. All of which meant that the sample set available around early June would be likely to include 11-15yr olds, with a possible smaller set of 17yr olds.

5.1.4 The researcher’s tutor approached the ethics committee early and managed to gain approval by May 27th 2005, which meant that GCSE and A-level examinations would be occurring and that the age range of 11-15yrs was likely to be the only data set that could be included. Table 5.1.3 shows the
number of pupils that were available and their age ranges although no information was found on the Ohio age ranges except for vague references in Todd (2004b).

Table 5.1.3: Comparative ages for the Ohio and Dixons CTC study

<table>
<thead>
<tr>
<th>Ages (UK Year Groups)</th>
<th>Ohio Study (N)</th>
<th>Dixons CTC Study (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>11-12 (Yr7)</td>
<td></td>
<td>56 (24.14%)</td>
</tr>
<tr>
<td>12-13 (Yr8)</td>
<td></td>
<td>76 (32.76%)</td>
</tr>
<tr>
<td>13-14 (Yr 9, SAT)</td>
<td></td>
<td>50 (21.55%)</td>
</tr>
<tr>
<td>14-15 (Yr 10)</td>
<td></td>
<td>50 (21.55%)</td>
</tr>
<tr>
<td>15-16 (Yr 11, GCSE)</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Average age</td>
<td>14yrs</td>
<td>12yrs</td>
</tr>
<tr>
<td>Age range</td>
<td>7-20yrs</td>
<td>11-15yrs</td>
</tr>
</tbody>
</table>

Ref: Ohio data set (Todd, 2004b).

5.1.4 The variation in population differences is difficult to compare quantitatively as Todd gives no information regarding individual year groups. However, the Mean age of 14yrs for Todd and 12yrs for Dixons CTC gives some standard of comparison.

5.1.5 Although population variation within the study itself was also non-comparable for most groups, as the teacher and librarian population size was statistically insignificant, with 9 teachers and 3 librarians compared to 232 pupils. However, it should be noted that any school is likely to possess a similar ratio and so quantitative comparisons of teacher or librarian vs. pupil will always be likely to produce statistically insignificant numbers in such a study. But as Todd used these comparisons, they were run.

5.1.6 It would be sensible to compare results graphically, but noting that teacher and librarian viewpoints are only used as a guide for comparison. Todd must have had a similar issue as the ratio’s are unlikely to be that different in the US.
5.1.7 The pupil population is thus mostly comparable with Todd’s study and the gender-related numbers are given here for both Dixons CTC and Ohio.

Table 5.1.4: Population statistics for Todd’s Ohio Study and Dixons CTC

<table>
<thead>
<tr>
<th></th>
<th>Ohio Study</th>
<th>Dixons CTC study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time period taken for</td>
<td>27 April - 30 June 2003</td>
<td>15 June – 1st July 2005</td>
</tr>
<tr>
<td>study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of respondents</td>
<td>13123</td>
<td>232</td>
</tr>
<tr>
<td>Number of Boys</td>
<td>6294/13123 = 47.97%</td>
<td>109/232 = 46.98%</td>
</tr>
<tr>
<td>Number of Girls</td>
<td>6702/13123 = 51.07%</td>
<td>108/232 = 46.55%</td>
</tr>
<tr>
<td>Number who did not</td>
<td>127/13123 = 0.97%</td>
<td>15/232 = 6.46%</td>
</tr>
<tr>
<td>signify gender</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ref Ohio data set: (Todd, 2004b, Whelan, 2004).

5.1.8 The Dixons CTC study had a far larger group not signifying gender, 6 of whom occurred in the 8yr age group, 8 in the 9yr age group and 1 in the 10yr age group. The 7 and 10yr age groups are thus far closer to Todd’s original study in terms of the percentage of respondents who did not signify gender.

5.1.9 As discussed previously, racial data was not recorded, although the researcher was informed that a ratio of 60% White : 40% Other Ethnic Groups was generally adhered to in the Dixons CTC admissions policy. However, this data was too vague to be of use in racial comparison with Todd’s group, which had a mix of 78.5% white: 5.5% African American: 4.1% Mixed Race: 11.9% Other. Racial comparison will thus be excluded from this study. It should also be noted that the high proportion of white students in Todd’s 39 schools within Ohio was far higher than the state average, whilst Dixons policy is to match the local average.

5.1.10 Finally, Dixons CTC library is located very centrally, just off the main meeting hall for students and close to the cafeteria. It is open from 8.00am to 4.45pm and is thus available before and after classes.
5.2.0 Academic achievement:

5.2.1 The college was initially chosen due to its high level of academic achievement, Table 5.2.1 shows how much higher Dixons CTC results are than the national average in KS4 GCSE and KS3 SAT tests. It should also be noted that Dixons had the fifth highest rating for all comprehensives for 5 or more GCSE’s at A*-C this year and that the Bradford average is lower than the national average for all years, so Dixons does far better than the schools in its district and most schools nationwide.

Table 5.2.1: Exam pass rates for Dixons CTC vs the UK National Average

<table>
<thead>
<tr>
<th></th>
<th>Dixons CTC %</th>
<th>UK % Average</th>
<th>Dixons CTC %</th>
<th>UK % Average</th>
<th>Dixons CTC %</th>
<th>UK % Average</th>
<th>Dixons CTC %</th>
<th>UK % Average</th>
<th>Dixons CTC %</th>
<th>UK % Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or more GCSEs Grades A*-C (% of 15 year olds)</td>
<td>94</td>
<td>37.3</td>
<td>94</td>
<td>39.6</td>
<td>94</td>
<td>54</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one GCSE A*-G (% of 15 year olds)</td>
<td>100</td>
<td>92.8</td>
<td>99</td>
<td>92.1</td>
<td>100</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KS3: % pupils achieving level 5+ in English</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KS3: % pupils achieving level 5+ in Maths</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>90</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KS3: % pupils achieving level 5+ in Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>93</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ref: (DfES, 2005), (Guardian Newspapers Ltd., 2005).

5.2.2 However, although Dixons CTC says it requires a broad range of academic ability (including special needs), it requires all applicants to undertake a number of diagnostic assessments, including structured discussions, that initially provide the college with a slightly higher grade of pupil.
5.2.3 There is also a noticeable distinction between the number of statemented children, which is half the Bradford and National average for both KS3 and KS4:

Table 5.2.3: Statemented Children at Dixons CTC in 2004.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total pupils</td>
<td>1084</td>
</tr>
<tr>
<td>Dixons CTC Pupils with SEN with statements KS3 (163 pupils)</td>
<td>2.00%</td>
</tr>
<tr>
<td>Dixons CTC Pupils with SEN with statements KS4 (165 pupils)</td>
<td>1.80%</td>
</tr>
<tr>
<td>Bradford LEA average</td>
<td>4.00%</td>
</tr>
<tr>
<td>England average</td>
<td>4.00%</td>
</tr>
</tbody>
</table>

Ref: (DfES, 2004a, DfES, 2004b).

5.2.4 The college achieves this by working its children for longer hours than the national average and expecting its students to have an intention to remain in full-time education until the age of 18, thus effectively targeting pupils who are aiming for University places (Hill, 2004). This has led to higher than average results, especially at GCSE and the following summary from OFSTED shows that this high standard has been occurring since at least 2001:

“This is a very effective school, which provides very good value for money. The school rigorously and effectively evaluates all aspects of its work and the standards achieved.” (OFSTED, 2001: 2).
5.3.0 Questionnaire Results

5.3.0.1 The questionnaire results illustrated in the following sections mainly come under 3 types:

- Illustrating issues within the data
- Illustrating shortcut methods used to identify unusual or similar data
- Illustrating the trends that occurred within the data set

5.3.1 Pupils

5.3.1.1 The time for completion of questionnaires was estimated by the teachers interviewed to be between 20-30 minutes. The open-ended questions (Appendix 5.3.1.1) provided two useful indications of how these qualitative results can be used. Question 21 asks pupils whether they have found interesting information in the library and as age increases, the number and range of subjects decreases. This could be an indication of the older age group apathy mentioned in Section 4.2.1.

5.3.1.2 Furthermore the choice of fiction books disappears after Yr 8, in line with Whelan (2004), suggesting that pupils concentrate more on their work after this age group, by concentrating on non-fiction.

5.3.1.3 There is also a tendency for Question 21 to produce more feedback from younger pupils. This could be because of the ‘need to please’ that Borgers, (2003) refers to in younger age groups, but could also be evidence of the younger generation being more keen on library use, or it could be another example of older age group apathy.

5.3.1.4 Graph 5.3.1.4 (over page) shows the general pupil viewpoint (Yrs 7, 8, 9 and 10) of how helpful the library is, in every theme, to students. Overall, there seems to be general agreement that the library helps in terms of giving access to computers and in improving results in output indicators (improved results section).
5.3.1.5 The library also seems to have a generally positive output regarding IL support for the students, with all the aquamarine sections occurring in the ‘Quite’ to ‘Some help’ areas. Pupils seem to exhibit a general negative trend towards help in Reading, although a detailed look at this subject shows that they are slightly more helpful at finding stories for pupils.

5.3.1.6 However, this graph is based on overall figures and it is also a good illustrator of one issue surrounding the ‘helps’ responses, that they all tend towards the positive! This means that, although many participants chose the more negative options for Reading support in libraries, they still chose ‘Some’ and ‘A little help’. This means that Dixons CTC library could be described as being ‘helpful’ in terms of Reading support.

5.3.1.7 But is this what the respondents meant by choosing answers on the right of the ‘helps’ responses or are there more negative connotations? This is discussed further in Sections 6.3.5 - 6.3.10.
Cone Graph 5.3.1.4: Comparison of Todd’s 7 Themes in terms of how helpful the library is.

Comparing Information Literacy, Computer Literacy, whether the library has helped improve results in tests, how the library has helped with skills outside the school and how influential it has been in improving reading skills for Dixons CTC pupils.
5.3.2 Teachers vs. Librarians vs. Pupils

5.3.2.1 As the ratio in sample size is 3: 9: 232 (Librarian: Teacher: Pupil), the populations are difficult to compare as the views of one person can dramatically bias the curve for teachers and librarians.

5.3.2.2 However, one curve that keeps appearing (except in Getting Information, Knowledge Outcomes and Independent Learning) is that teachers and librarians tend to think that the library helps a great deal by choosing ‘Quite Helpful’ more often than not. Yet, pupils (from both Dixons and Todd) often feel that the trend is far smoother, as Graph 5.3.2.2 shows:

Line Graph 5.3.2.2: Comparing the views of pupils, teachers and librarians using IL skills.

5.3.2.3 Pupils are thus either very badly informed or missing information for a reason. The reason this occurs is more obvious in the Getting Information comparison (Graph 5.3.2.3). In this graph, all groups concur that the library will provide little help in an area that the library is highly capable in; providing skills training in information searching.
5.3.2.4 The reason pupils, librarians and teachers concur is that the teachers and librarians realise that the library provides the skills, but that the pupils do not recognise this. Thus the teachers and librarians responded as the students would in the questionnaire, by pretending they did not know about IL support.

5.3.3 Dixons CTC Pupils vs. Todd’s Pupils

5.3.3.1 Ftest comparisons are not recommended for non-linear data sets, but they are useful ways of comparing two data sets if you need to see what is comparable and what is not. Graph 5.3.3.1 (over page) compares the responses for each individual statement for both the Ohio and Dixons CTC populations. The graph shows each set of results split into Todd’s 7 Themes.

5.3.3.2 Themes 1, 5 and 7 are relatively similar in responses as their plots tend to occur closer to the value of 1.0. This can be seen graphically for Theme 1 by looking at the line graph for Section 5.3.2.3, which shows both the Dixons CTC and Ohio curves for Theme 1 and as you can see, they match quite well.
A comparison of the variation in question answers between Dixons CTC and Todd's Ohio study

Scatter Graph 5.3.3.1: Comparison of Dixons CTC and Ohio pupil responses to all 50 statements
5.3.3.3 The scatter graph is also useful in identifying vague questions because most respondents seem to answer ‘Does not apply’ to any statement they do not understand, and thus most vague questions exhibit higher than usual ‘Does not apply’ scores. The scatter graph has shown that, for most vague questions, Ohio did not get the same responses as Dixons. This could be because Todd’s additional clarifying statements relating to ‘helps’, which he placed on his web-end questionnaire, fulfilled their purpose and his respondents understood the vague questions and thus chose not to answer ‘Does not apply’, whilst Dixons respondents did choose ‘Does not apply’.

5.3.3.4 As an example of this process, statement 24 provided the following results:

![A comparison of the percentage responses to Q24 amongst pupils](image)

Line graph 5.3.3.5: A comparison for the statement ‘the school library has helped me find information, even when I am not at school’.

5.3.3.5 In line graph 5.3.3.5, the green circles indicate where the Ohio and Dixons CTC curves vary and also show about a 10% difference between the number of respondents who answered ‘Does not apply’ (on right hand of graph), with Dixons answering over 30% and Ohio about 20%.

5.3.3.6 This was identifiable on the 5.3.3.1 scatter graph by noting that statement 24’s plot is almost at the 0.0 line, thus indicating that Ohio and Dixons responses to statement 24 varied dramatically, which we see in line graph
5.3.3.5. The scatter graph was thus used to identify vague questions in this manner.

5.3.4 Dixons CTC Male vs. Female pupils

Line Graph 5.3.4.1: Comparison of Male vs. Female responses to vague questioning.

5.3.4.1 Statement 40 was another question that was identified as vague using the scatter graph method, but the method failed because, although the question was picked up by the scatter graph as non-comparable, this was because it contained a bell-shaped and a binomial distribution. Although the scatter graph method still supplied useful data as it shows that females are more likely to ask the library for help when they do not understand something.

Graph 5.3.4.2: Internet experience amongst pupil genders
5.3.4.3 Whilst graph 5.3.4.2 shows that males feel they require slightly less help than females when searching the Internet, although 185 of males feel the library is ‘Most helpful’, whilst 12% of females feel the same way. This could suggest targeting more Internet support to females, though the difference is small.

5.4.0 Dixons CTC skills comparisons for pupils

5.4.1 Getting Information

5.4.1.1 For an overall picture of how each year group replied to the questionnaire, comparisons of the mean responses for each of Todd’s 7 Themes (Section 3.4.16) are supplied here:

![Graph](image)

Graph 5.4.1.1: Getting Information age comparison.

5.4.1.1 This graph is a good indication that statements in the ‘Getting Information’ theme tend to be based on categories that students find it hard to disagree on, as all 4 curves are very similar for all age groups. The theme effectively asks participants if they have been taught basic IL skills, such as finding and using information, using a wide variety of resources, having opinions and using the library staff. It also contains no misunderstood questions so there are no anomalies.
5.4.1.2 As this is the first theme on the questionnaire, it is also likely that a little more time was spent on the statements. But a school library would have to be remiss in its duties if it was not covering most of the statements in Theme 1, so the majority of school libraries would fit this pattern.

5.4.2 Knowledge Outcomes

Graph 5.4.2.1: Knowledge Outcomes age comparison

5.4.2.1 Todd gave this theme a confusing title as it really asks about computers and the Internet. The graph again shows the apathy of the Yr 10 group, although veering towards the positive, but the results belie the facts shown in the table for Yr 10 (see below). This shows that the students feel the library is helpful regarding computer use in general (statements 1, 3 and 7), but that they know enough about the Internet already (statements 4 and 5).
5.4.2.2 Whilst Table 5.4.2.2 shows that the Yr 7 pupils are obviously less Internet literate and recognise the library’s input, as well as appreciating the access to computers that statements 1, 3 and 7 suggest the library offers. Although it is noticeable that every year group answered very negatively regarding interest in computers.

Table 5.4.2.2: Yr 7 and Yr 10 Frequency results for Knowledge Outcomes

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yr 7</th>
<th>Yr 10</th>
<th>Yr 7</th>
<th>Yr 10</th>
<th>Yr 7</th>
<th>Yr 10</th>
<th>Yr 7</th>
<th>Yr 10</th>
<th>Yr 7</th>
<th>Yr 10</th>
<th>Yr 7</th>
<th>Yr 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Computers in the school library have helped me do my school work better</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>10</td>
<td>5</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The school library has made me more interested in computers</td>
<td>4</td>
<td>3</td>
<td>9</td>
<td>7</td>
<td>15</td>
<td>7</td>
<td>13</td>
<td>14</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Computers have helped me find information inside and outside the school library</td>
<td>20</td>
<td>14</td>
<td>12</td>
<td>14</td>
<td>11</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The school library has helped me search the Internet better</td>
<td>9</td>
<td>4</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>14</td>
<td>13</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The school library has helped me be more careful about information I find on the Internet</td>
<td>6</td>
<td>0</td>
<td>14</td>
<td>9</td>
<td>12</td>
<td>19</td>
<td>14</td>
<td>11</td>
<td>8</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Computer programs (like PowerPoint, Word or Excel) in the school library help me do my school work</td>
<td>24</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>7</td>
<td>9</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7. The school library has helped me feel better about using computers to do my school work</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Yr 10 Total Population = 50; Yr 7 Total Population = 54.

5.4.3 Tests and Quizzes

Graph 5.4.3.1: Independent Learning age comparison.

5.4.3.1 The theme for this chart relates to how much the library helps students in tests, projects, discussions and school work in general. Yr 7 feels it gets the most help from the library and this suggests that Yr 7 recognise the effect of the library when they first enter the school. But by the time they get to Yr 10,
the library’s effect on general workload has been forgotten and so Yr 10 pupils tend to be more negative.

5.4.3.2 The Yr 9 response could seem unusual as one would expect that the older a pupil gets, the less help they feel they need from the library with their general work. But the result was skewed towards a positive response by high frequency scores in the statements asking about projects and doing school work better, so it is likely that the students in this class had recently undertaken projects in which they had gained good marks and that the library was recognised as helping them achieve this. This response shows how the helps statements can indicate specific library initiatives, such as projects being supported by the library.

5.4.4 Reading

![Graph 5.4.4.1: Reading age comparison](image)

5.4.4.1 Although the library do run reading groups and Carnegie Medal Award Winner events, it was felt by a few teachers that they did not access enough of the less interested pupils. Furthermore, a number of teachers thought that reading and writing skills would be identified by the pupil as the domain of teachers. This is possibly why this graph tends towards the ‘A little help’ section.
5.4.4.2 However, Yr 7’s again seem to appreciate the library the most and Yr 10’s the least, which would work alongside Todd’s finding in (Whelan, 2004), that older pupils read more non-fiction and thus their reading suffers. The same can also be said of Yr 8’s in this sample.

5.4.5 Information Literacy

Graph 5.4.5.1: Reading age comparison

5.4.5.1 Most of the other graphs possess a similar range to the above, with either slightly more results to the left of middle or right of middle, giving the library general responses for achievement and Information Tech.

5.4.5.2 It is noticeable in this graph that the older age group seem more enthusiastic about using Information Literacy support, although there is an equivalent group who are negative. However, the overall recognition by most students is that good work is being done.
5.5.0 Interview Results

5.5.1 The interview questions that produced the most relevant responses focussed on giving a good deal of background knowledge upon which to base the pupil responses. By organising the results into themes (Appendix 5.3.1.1), the qualitative interview responses became easier to identify with specific quantitative data sets, thus improving comprehension of any erroneous occurrences.

5.5.2 The results will be listed in regard to the adapted Dixons CTC Themes (Section 4.4.4) and specific indicators, such as collaboration, active reading programs and alignment of curriculum demand.

5.5.3 Themes 1, 5, 6, progression: Teachers are very aware of IL skills and training at Dixons CTC, comments included:

“We set up a standard study skills training course that all teachers try to use so we are all singing from the same hymnbook”.

“Science has its own IL skills training called the Scientific Method!”

“The younger ones are taught how to find info and how to understand what they have found”, whilst “the brighter ones, especially, tend to realise that not everything is completely true on websites.”

“We do expect kids to be able to write in essay form, do research out of books, evaluate and look at sources, and this increases from Yr 7 to Yr13.”
5.5.4 *Collaboration, curriculum alignment, Theme 4:* When questioned about support, the response was to talk of:

- Getting book collections together (5 teachers).
- Taking books to the classroom (3 teachers).
- Discussing book selection (3 teachers)
- Being made aware of curriculum material (4 teachers) for projects and Internet searches.
- Collecting general background research material for students (such as newspaper cuttings) (1 teacher).
- A lot of non-curricular support occurring in the library (12 instances from 5 teachers).

5.5.5 Every teacher was able to suggest some level of support, although 2 only thought of book collections and were unable to give an example of any other support after direct questioning, but later provided other examples. So the accidental inclusion of repeat questions at different times provided greater responses.

5.5.6 *Reading development programs:* Awareness of reading support for children and teachers was relatively basic, with all recognising that the library’s main function was to supply books and being aware that the librarian organised the Carnegie Awards reading challenge. However, one teacher felt that the Carnegie Award project just:

“[tended] to be the brighter children that [volunteered] to do it. So it [didn’t] necessarily help the lower ability ones.”

5.5.7 *Sub-group studies:* This was also recognised in general, with another teacher saying that pupils who were not interested needed incentives to go to the library, such as ‘a lollipop’ or possibly opening times. Although the teacher in question thought that opening the library earlier would not be likely to entice such children in as the café area was also open early.
6.0 DISCUSSION

6.1.0 Demographics

6.1.1 As Table 5.1.3 shows, there are few population figures for the Todd study, so comparisons between Todd’s age group variables (Ohio) and Dixons CTC is difficult. However, the average ages of Ohio and Dixons CTC are given as 14yrs and 12yrs respectively. This data helps in comparison studies, as in Section 3.9.10, Borgers (2003) suggests that children above 10-11yrs of age find completely labelled clear response options help them understand questions, so both age groups would benefit from clearly labelled question responses. Furthermore, with the youngest age group being 11yrs of age, question comprehension should be relatively similar across the age ranges of the Dixons study.

6.1.2 To study the demographic range, statistical analysis was used, but as the questionnaire design tries to fit qualitative responses into a quantitative framework, this lead to a number of issues and thus limited the study.

6.1.3 Firstly, qualitative ranges of responses are often non-linear, in that the questions do not necessarily get harder as the questionnaire goes on. This meant that FTests and a number of other statistical measures were less useful. The non-linear nature of the responses also meant that both binomial and bell-shaped curves occurred for two population sets within the same question. In Graph 6.1.3, for the same question, the female answer is binomial and the male is bell-shaped. This makes comparisons between population sets difficult (Whelan, 2004).
A comparison of the percentage responses to
Statement 40 at Dixons CTC

<table>
<thead>
<tr>
<th>% responses</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Doesn't apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Q40</td>
<td>30.00</td>
<td>15.00</td>
<td>10.00</td>
<td>10.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Male Q40</td>
<td>35.00</td>
<td>20.00</td>
<td>15.00</td>
<td>20.00</td>
<td>20.00</td>
</tr>
</tbody>
</table>

The school library has helped me when I do not understand some things

Graph 6.1.3: Comparative responses to Statement 40 between Male and Female pupils

6.1.4 Furthermore, the nature of a questionnaire produces quantitative results and as the ratio of librarian: teacher: pupil is 3: 9: 232, the population data is statistically non-comparable. Furthermore, as this ratio is likely to occur in any school, often with the librarian being 1 individual, the question that occurs is how was Todd able to compare his teacher and librarian responses with his pupil responses?

6.1.5 If the researcher attempts to make the results comparable by placing the results into percentage sets, then if the ratios hold, the viewpoint of one librarian will be worth 33% of the total sample set, whilst the viewpoint of a pupil will be 0.43%, almost a factor of 10. Furthermore, Todd could argue that he gauged the viewpoints of all teachers and librarians in his 39 schools, thus gaining a large sample. But if comparisons between studies cannot be made (Whelan, 2004) because of locally variable factors, this argument would not stand up to scrutiny.
6.1.6 Especially when Todd asks teachers and other staff to fill in the questionnaire from a child’s viewpoint, because as one teacher recognised:

“It was hard to fill [the questionnaire] in [from] a pupil’s perspective – are you filling it in as the brightest, middle or cleverest pupil? Or someone who goes to the library or not? I tried to fill it in as a middle ability pupil, but each pupil will have had different experiences” (edited for clarity).

So are the responses from teachers and librarians valid as it is difficult to know which pupil to compare the results against. However, as the size of the pupil sample was 232, we should gain an average (Mean) response which we can then compare to the teacher or librarians average pupil.

6.1.7 Todd also attempted to run Standard Deviation on his population sets, but when trying to compare the results, I found that Todd had not based his Standard Deviation on the figures he supplied in Todd (2004b) because using his supplied figures did not produce the same Standard Deviations as he noted in the text.

6.1.8 Overall, for each theme, Standard Deviation varied widely, in many cases being two-thirds of the Median, even in the largest data set of Yr 8’s. This thus showed enormous variation, which is not surprising giving the various bell and binomial distributions in the data.

6.1.9 It is therefore best to compare the teacher/librarian vs. pupil results graphically (see Graph 6.1.2), as well as using the Mean to get the average, but this does show the limitations of statistical comparison of qualitative questionnaires.
6.2.0 Questionnaire design

6.2.1 As noted in the Methodology, web-based questionnaires were discussed but eventually shelved due to the impracticality of running such a survey in the school. One reason given was the timetable, but when students and teachers were questioned about using a web-based design, the range of responses was variable, with 7 students wanting paper and 1 wanting web-based “because it would be more anonymous”.

6.2.2 A smaller questionnaire of 7 themed sets of questions, based on Todd’s 7 Themes (Section 3.4.16) were also considered, but rejected by the teachers.

6.2.3 There were also pupil viewpoints on questionnaire design:

- In terms of questionnaire length, there was no firm choice.
- 6 students and 2 teachers suggested a two or 3 page questionnaire with large font. Some of the questionnaires did not have the back filled in because students had not realised there was a second side.
- More space should have been provided for open-ended questions (21 and 37) as the small space put some participants off.
- Comic Sans font should be used for questionnaires and all correspondence regarding the work as dyslexics find this letter ‘a’ more readable than this letter ‘a’.
- Spare paper reminders should have been included at questions 21 and 37, as well as at the end, as most students forgot to ask for more.
6.2.4 One advantage of the Todd questions are that they can be used to identify the effect of specific initiatives. For instance a number of statements ask if:

Statement 7: The school library helps me feel good about asking for assistance.

Statement 16: The school library has helped me read more often.

Statement 47: The school library has helped me get better marks on my projects and assignments.

So in 3 questions we recognise whether students are feeling the effects of a friendly library policy, a reading initiative and curriculum development.

6.2.5 But the Theme behind statement 47 is very much aimed at identifying the librarian effect on outputs (test scores, project scores, etc.) and may thus receive a biased response from pupils who do better in tests.

6.2.6 Moreover, pupils also provide erroneous data when they are not informed, as recognised in Section 5.2.2.2. In this section, the responses from teachers, librarians and pupils showed a similar negative opinion regarding how much the library helped with IL Support, even though teachers and students knew the library IL support was good.

6.2.7 The reason for this lack of recognition by the staff is best described by 2 teachers and a librarian during interview:

Teachers: “[Pupils] tend to pick up the skills without knowing the library helps... they may understand the process, but are not aware what it is called so may not identify it.”
Librarian: “Because the use of the library is so well integrated into the curriculum, pupils may not associate the learning of skills directly with the library. The library is very much an extension of the classroom.”

6.2.8 This identifies a flaw in Todd’s questionnaire, which is that even though Dixons CTC library provides a wide range of IL skills practice and IL training, pupils are not aware of it and thus do not note this factor in their responses. A large set of erroneous data was thus based on the fact that pupils were unaware of the librarians job, which is not surprising!

6.2.9 Thus, just using the pupil questionnaire data, we would assume that Dixons CTC IL Support was not that good. We need both qualitative and quantitative teacher and librarian feedback to recognise this issue and so, even though the librarian and teacher ratio’s are small statistically, their responses can still be used to elicit vital information.

6.2.10 Another factor that caused confusion when researching the Todd methodology was that Todd’s theme titles can be confusing. For instance, his title of ‘Knowledge Outcomes’ refers to using computers at home and at school, yet the title does not indicate this. The themes could thus be updated.

6.2.11 So could the range of responses, as Todd (2004b: 4) says that:

“In planning the study, the project team gave considerable thought to the use of the category “No Help” versus “Does not apply.”

By removing the ‘No Help’ category and replacing it with ‘Does not apply’, Todd effectively leads students to answer in a more biased manner. Both teachers and students pointed out that, with ‘Does not apply’ being the only truly negative response, many of them chose it as a catch-all for a ‘No Help or a ‘Does not apply’ scenario.
6.2.12 There was also one teacher who mentioned that one of his younger pupils found it hard to decide whether to choose ‘A little help’ or ‘Does not apply’ as a negative response. This is not surprising, because we have seen that younger children can find questions that require an ambiguous response difficult to answer and tend to choose to respond in a very straightforward way (Furth, 1970). The teacher said that, in this case the student could choose ‘Does not apply’ as they felt the response did apply and thus, although they wished their response to be negative, they chose ‘A little help’ as the answer. Such misunderstanding may have therefore led to respondents answering positively when they really wanted to answer negatively.

6.2.13 It is possible that older children would not find this so complex and would choose the catch-all method, but with the ratio of positive to negative responses being 4:1, by its very nature the questionnaire becomes upbeat and the general message may thus become more positive than is the reality.

6.2.14 In fact, Todd (2004b: 4) does suggest that a more positive slant is likely when he states that:

“This study was not intended to be a study of how school libraries do not help, rather to focus on best practice and to understand much more richly how effective school libraries do help students by identifying and elaborating the ‘helps’ construct…… the study sought to address the question; if effective school libraries impact positively on test scores, what is the impact on other dimensions of student learning?”

But can such a slant produce useful results? The methodology assumes that libraries already impact positively and seeks to find out how by questioning the pupils. But by framing such an assumption, Todd’s series of ‘help’ statements could already be biased.
6.2.15 Todd’s own report (Todd, 2004a) falls into this trap, but the best example of the positive bias can be seen in an interview with Todd that was carried out by Whelan (2004:1):

“[Whelan] To what extent do kids value the media center?”
“[Todd] Some 88.5 percent of the 13,123 Ohio students surveyed say the school library helps them get better grades on projects and assignments…” (Whelan, 2004:1).

This statement suggests a glowing reference from school children on how well the library helps them, with 88.5% thinking the library improves their grades.

6.2.16 However although this is true according to the general statistics, the detailed figures are slightly less positive:

<table>
<thead>
<tr>
<th>The school library has helped me get better grades on my projects and assignments.</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Doesn’t apply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26.1</td>
<td>26.4</td>
<td>19.5</td>
<td>16.5</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Ref: (Todd, 2004b)

These show that 52.5% think the library is ‘Most’ or ‘Quite’ helpful, whilst 36.5% grade the library as ‘Some’ or ‘A little’ help, with 11.5% saying the question ‘Doesn’t apply’. This could also be taken to mean that, of the 88.5% that find the library useful, 52.5% find the library helpful most of the time, whilst 36.5% think of it as helpful some of the time or rarely.

6.2.17 If this is the case, and it seems more likely, then a very different slant is placed on the figures and one has to wonder whether the student that said the library supplied ‘A little help’ truly meant it to sound as positive as the Whelan (2004:1) report suggests.
6.2.18 Number of teachers also suggested avoiding vague or complex questions, for example:

“Some of the questions [in the questionnaire] weren’t that clear [and] this required reflection and some children had trouble with that” and “post-16 or GCSE students could cope with this, but lower school students would find it hard, and some weaker students would just guess.”

6.2.19 There were a number of issues regarding question design, ranging from badly worded or vague questions, to the way that the questions were set out. Responses from respondents varied and ranged from misunderstandings that provided an unsure response through to questions that respondents totally misunderstood.

6.2.20 When questioned, 100% of teachers said that students had misunderstood 3 statements that the teachers had tried to summarise, however in some cases the response from the teachers could have elicited just as much confusion. For instance, a number of teachers identified Question 24 as posing particular problems for children, so the questions in the table were asked of teachers in interview.

Table 6.2.20: Comparison of Statement 24 (from Appendix 6.2.20)

<table>
<thead>
<tr>
<th>Do you think these two statements ask the same thing?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q24: The school library has helped me find information, even when I am not at school.</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Q25: Skills I have learnt from the school library have helped me find information, even when I am not at school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which question is clearer, Q24 or Q25?</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

6.2.21 In Table 6.3.13, Statement 25 was not on the original questionnaire, but was added because this is what Todd wanted the statement to mean according to his review of qualitative responses in Todd (2004b). The response from teachers shows that pupils would not necessarily have been given the correct answer, which is that the two statements do mean the same thing. Teachers
incorrect responses ranged from not ‘really knowing what 24 means at all’ to, it meaning ‘the library staff have helped me at home’. Furthermore, the vague nature of Statement 24 can be shown when noting that most teachers found 25 to be clearer.

6.2.22 The following statement:

Statement 11: “The school library has helped me search the Internet better.”

also brought up a number of qualitative issues that were clarified during focus group interview.

6.2.23 Todd describes this statement as asking respondents whether they possess certain skills or knowledge at searching the Internet. However, 2 respondents defined ‘searching the Internet better’ as meaning:

  Respondent 1: “We needed help every time we used the Internet (and the library provided it)”
  Respondent 2: “…possess a high level of Internet searching skills, which I have gained by using the library”

6.2.24 Both participants chose the ‘Most helpful’ response, but their answers were based on two opposing ideas of what the statement meant. In reality, Respondent 1 should have answered ‘A little help’, but instead responded ‘Most Helpful’.

6.2.25 So there are obviously vague responses occurring due to some of the questions and the question design, although based on the size of the focus group (8 children, 9 teachers, 1 librarian), more data needs to be captured to ascertain if this was a common misconception.
6.2.26 Furthermore, the scatter graph FTest analysis in section 5.3.3.3 found that few of Todd’s vague questions got a negative response and this indicates that either Todd managed to explain the vague questions, or his students understood them. It is more likely, given the feedback in interviews, that Todd’s web-based system managed to explain the vagaries of these questions, but Todd only notes giving web-guidance relating to his ‘helps’, whereas there was no clarification of statements mentioned.

6.2.27 The Todd methodology could be a useful medium-sized study for overall identification of indicators and, linked to the DfES (2004) self-evaluation process, it could be used as a somewhat quicker method of identifying the ‘strands’ within this process that are most in need of study.

6.2.28 One final point is that much of this discussion has focussed on the questionnaire needing qualitative feedback to provide explanations of erroneous data. However, the in-depth knowledge needed for such a questionnaire study could already exist in the librarian at the school (it did at Dixons CTC), so a questionnaire could be run by a librarian if they are aware of the issues within their library infrastructure because they will be able to identify erroneous problems with questionnaire results.
6.3 Interview design.

6.3.1 Interviews.

6.3.1.1 The most effective tools during interview sessions were, in order of effectiveness:

*Feeder questions;* these made the interview far less effort to run for the interviewer, as less thought was needed to formulate extra questions and thus more thought could be expended on listening to replies. Furthermore, the thought expended on the feeder questions produced far more useful responses than questions thought up in the midst of the interview. Initial questions also sometimes stalled early, or the respondents lost track of their thoughts and the feeder questions often brought participants back on track or lengthened participant response.

*Recording the session;* these made interviews more relaxed for the interviewer and respondent as the flow of conversation was not slowed by noting down data. In the Focus Group session, recording was impossible due to the size of the group and the acoustic nature of the classroom and data notation definitely interrupted flow and made for a harder interview session.

*Putting questions to a vote:* the lack of a pilot interview was notable, as some vote questions provided too specific a quantifier for the enquiry, an example of this problem was a Feeder question provided to teachers:

- How often are the IL skills used?
  - Every day
  - Once a week
  - Once a fortnight
  - Once a month
  - Rarely
  - Never

This question did not take account of the fact that different IL skills would be used in different lessons and that teachers often found that IL skills were more easily recognised during project work. The quantifiers of every day, once a fortnight and suchlike were therefore irrelevant in this context. Although this error often created more discussion because the teachers found they had to
clarify the point, so even asking badly designed quantifiable questions in an interview context can produce useful qualitative responses.

Overall, the voting questions extended qualitative response time, for instance the focus group question to pupils:

Q6. Put your hands up if you would have been happier filling out the questionnaire online.

No. of pupils.............

Created a burst of discussion regarding online access to the questionnaire, providing far more detail to the responses.

Storyline questions; provided the least feedback. In an attempt to relax the pupils into thinking about the subject matter, I decided to offer some chocolates around and give 5 minutes for thinking time. This failed as the students were more interested in the chocolates. Thomas (2000) and Todd’s (2004b) idea of getting them to write a response would have been far more suitable as they would then have concentrated on the subject matter.

6.3.1.2 Such questions required a relaxed format and the focus group session was less relaxed due to having to take notes after every question, which placed a pause on the process and left time for pupils to talk and thus lose focus. An extra person would have been useful as a note-taker to keep the flow going.

6.3.1.3 The pupils also requested that, as the questionnaire was about a ‘boring’ subject, that an initial discussion/presentation from myself about why the subject was being addressed would have made them more interested. Many felt that the written explanation, even if explained by the teacher, produced little interest.
7.0 FURTHER RESEARCH

7.1 For Further Research suggestions relating to the Critical Desktop/ Literature Review, see section 3.6.0.

7.2 The tendency for Question 21 to produce more feedback from younger pupils needs to be researched. Questions to ask are: does this mean apathy in older pupils, a ‘need to please’ in the young, or that younger pupils feel they need to use the library more than older pupils because the older age groups are more efficient users?

7.3 A ‘helps’ questionnaire should be compared that contains negative and positive responses in the ‘helps’ range to see if there is a difference in respondent replies.

7.4 Todd’s results seemed to mostly avoid ‘Does not apply’ responses for vague questions, it would be useful to know how he achieved this.

7.5 Todd’s design seems usefully suited to recognising older age group apathy, it could be adapted to study this sparse area of research.

7.6 Todd’s design could also be used as a method of identifying the most urgent ‘strands’ that need to be assessed within the DfES (2004) self-evaluation model.
8.0 CONCLUSIONS

8.1.0 Questionnaire design

8.1.1 In terms of design, the word ‘help’ could be changed, or its frequency in the ‘statements’ reduced to the first three columns, with columns 4 and 5 being more negative. It would seem far more informative to have ‘No Help’ as the 4th column and ‘Does not apply’ as the 5th. For in this way we can identify the students who originally chose ‘Does not apply’ as a category because there was no category that asked them for a negative ‘No Help’ response. The trend within the questions will also become more logical to students in that it will supply a range from good to bad, rather than a range that uses good responses throughout, except for a 5th column response that can only be chosen if the question is irrelevant.

8.1.2 Questionnaire design was a particularly hazardous affair during this project as it required a large number of edits to accomplish. As many potential librarians are likely to run further surveys throughout their career, it would seem sensible to provide a lecture on questionnaire design during the Masters in Librarianship.

8.1.3 Some of the younger participants found it hard to fit a question to a concept. This is especially true within a school like Dixons CTC, where the IL skills are integrated more firmly into the workload and thus the terms used in the question statements are meaningless, even though the pupil regularly practises the skills. To solve this issue, pupils should be given the opportunity to discuss what is required of them when filling in the questionnaire. Dealt with correctly, this would not bias results because pupils would just be asked to think about how the library has helped them with their day-to-day school work and thus participants would be more focused when the questionnaire finally arrived.
8.1.4 There could also be more questions to account for the fact that those questions which try to ask too much risk being misunderstood. For instance:

Statement 24: The school library has helped me, even when I am not at school

Could be broken into 2 statements:

1. The skills I have learnt at the library have helped me when I am not at school
2. The school library staff have helped me, even when I am not at school.

8.1.4 Some of the responses were biased by the proximity of practising certain skills close to the time of the questionnaire. To account for this bias, researchers should try to find out what work has recently been done by students and what promotions are running.

8.2.0 Dixons Results

8.2.1 Dixons CTC library runs a number of Reading groups, but results show that Reading support is not recognised that much by the pupils. This is possibly because a reading group constitutes a small sample of the student population and the message has not got to the majority of pupils. Concentration on older age groups and less interested groups could create good advocacy within the school.

8.2.2 Overall, the school seems to have good support of IL and ICT skills and although teacher training seems less of a priority, given the skills of the teachers, the library could do with advocating its role more often. General interest in the library seems to be greatest
in the younger age groups, tailing off with older groups, except
during computer support.
BIBLIOGRAPHY


APPENDICES
What are the attributes of information literate students?

They can:
* Explore their topic and define their information need;
* Use a variety of information-gathering strategies;
* Locate and access relevant information from a variety of sources;
* Evaluate credibility of sources;
* Select only the data they need from all the available sources;
* Process and record selected data.
* Understand form and format of information;
* Analyze and synthesize information;
* Share what they have learned through a variety of oral, written and multimedia presentations;
* Engage in literary and media experiences;
* Honor the work of others by using appropriate references and citations;
* Demonstrate their learning so that others can learn from them;
* Apply what they have learned to new and different situations;
* Optimize the use of technology to enhance their learning;
* Evaluate their own learning processes and set goals for their improvement.

APPENDIX 3.4.14

Todd (2004a) original Questionnaire Design

<table>
<thead>
<tr>
<th>Question</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. The school library has helped me know when I find good information</td>
<td>19.9</td>
<td>29.1</td>
<td>26.0</td>
<td>17.9</td>
<td>7.2</td>
</tr>
<tr>
<td>15. The school library has helped me find different opinions about my topics</td>
<td>19.2</td>
<td>28.8</td>
<td>25.8</td>
<td>17.2</td>
<td>9.1</td>
</tr>
<tr>
<td>16. The school library has helped me feel better about finding information</td>
<td>21.9</td>
<td>28.2</td>
<td>23.2</td>
<td>17.4</td>
<td>9.4</td>
</tr>
<tr>
<td>17. The school library has helped me feel good about asking for assistance when I go there</td>
<td>28.8</td>
<td>25.2</td>
<td>18.8</td>
<td>17.9</td>
<td>9.3</td>
</tr>
<tr>
<td>2. How helpful the school library is with using the information to complete your school work?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. The school library has helped me know how to use the different kinds of information sources (such as books, magazine, CDs, websites, videos)</td>
<td>31.5</td>
<td>30.4</td>
<td>19.5</td>
<td>12.4</td>
<td>6.3</td>
</tr>
<tr>
<td>22. The school library has helped me work out the main ideas in the information I find</td>
<td>17.7</td>
<td>31.9</td>
<td>25.6</td>
<td>16.9</td>
<td>7.9</td>
</tr>
<tr>
<td>23. The school library has helped me get better at taking notes</td>
<td>12.8</td>
<td>16.6</td>
<td>20.7</td>
<td>27.8</td>
<td>22.1</td>
</tr>
<tr>
<td>24. The school library has helped me put all the ideas together for my topics</td>
<td>14.7</td>
<td>23.9</td>
<td>24.9</td>
<td>23.1</td>
<td>13.4</td>
</tr>
<tr>
<td>25. The school library has helped me put ideas in my own words</td>
<td>13.4</td>
<td>20.2</td>
<td>22.5</td>
<td>26.0</td>
<td>17.9</td>
</tr>
<tr>
<td>26. The school library has helped me think about how I should go about finding information next time</td>
<td>24.9</td>
<td>29.7</td>
<td>22.5</td>
<td>15.4</td>
<td>7.6</td>
</tr>
<tr>
<td>27. The school library has helped me know that research takes a lot of work</td>
<td>32.3</td>
<td>25.9</td>
<td>18.5</td>
<td>14.3</td>
<td>9.0</td>
</tr>
<tr>
<td>28. The information I have found in the school library has helped me become more interested in my topics</td>
<td>23.1</td>
<td>25.6</td>
<td>22.1</td>
<td>18.4</td>
<td>10.8</td>
</tr>
<tr>
<td>3. How helpful the school library is with your school work in general?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. The school library has helped me remember my school work</td>
<td>11.7</td>
<td>18.8</td>
<td>19.0</td>
<td>22.9</td>
<td>27.6</td>
</tr>
<tr>
<td>32. Two of the classes where I have remembered more school work are:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. The school library has helped me get the first facts about my topics</td>
<td>23.4</td>
<td>30.3</td>
<td>22.1</td>
<td>16.3</td>
<td>7.9</td>
</tr>
<tr>
<td>34. The school library has helped me learn more facts about my topics</td>
<td>31.3</td>
<td>31.4</td>
<td>19.8</td>
<td>11.7</td>
<td>5.7</td>
</tr>
<tr>
<td>35. The school library has helped me when I do not understand some things</td>
<td>21.5</td>
<td>26.9</td>
<td>23.8</td>
<td>17.8</td>
<td>10.0</td>
</tr>
<tr>
<td>36. The school library has helped me figure out if my own ideas are good or bad</td>
<td>12.5</td>
<td>20.9</td>
<td>23.1</td>
<td>23.9</td>
<td>19.6</td>
</tr>
<tr>
<td>37. The school library has helped me change my mind about some things I thought I knew</td>
<td>17.2</td>
<td>23.6</td>
<td>23.5</td>
<td>20.5</td>
<td>15.1</td>
</tr>
<tr>
<td>38. The school library has helped me figure out my own opinions on things</td>
<td>15.1</td>
<td>21.5</td>
<td>22.3</td>
<td>22.5</td>
<td>18.6</td>
</tr>
<tr>
<td>39. The school library has helped me connect different ideas I already have</td>
<td>16.5</td>
<td>24.3</td>
<td>24.0</td>
<td>20.4</td>
<td>14.8</td>
</tr>
</tbody>
</table>


Note that number order is out of synchronisation because Todd removed non-responsive questions.
APPENDIX 3.4.14

Todd (2004a) original Questionnaire Design continued

<table>
<thead>
<tr>
<th>Question</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. How helpful is the school library with using computers in the library, at school, and at home?</td>
<td>13.4</td>
<td>15.5</td>
<td>17.6</td>
<td>26.5</td>
<td>26.9</td>
</tr>
<tr>
<td>41. Computers in the school library have helped me do my school work better</td>
<td>41.6</td>
<td>24.0</td>
<td>14.3</td>
<td>12.5</td>
<td>7.6</td>
</tr>
<tr>
<td>42. The school library has got or stolen?? me more interested in computers</td>
<td>24.9</td>
<td>20.5</td>
<td>18.2</td>
<td>20.2</td>
<td>16.1</td>
</tr>
<tr>
<td>43. Computers have helped me find information inside and outside of the school library</td>
<td>49.0</td>
<td>21.4</td>
<td>13.8</td>
<td>10.1</td>
<td>5.7</td>
</tr>
<tr>
<td>44. The school library has helped me search the Internet better</td>
<td>33.2</td>
<td>23.0</td>
<td>16.9</td>
<td>16.5</td>
<td>10.4</td>
</tr>
<tr>
<td>45. The school library has helped me be more careful about information I find on the Internet</td>
<td>24.8</td>
<td>22.7</td>
<td>18.9</td>
<td>19.2</td>
<td>14.3</td>
</tr>
<tr>
<td>46. Computer programs (like PowerPoint, Word, and Excel) in the school library help me do my school work</td>
<td>39.7</td>
<td>20.8</td>
<td>14.3</td>
<td>12.7</td>
<td>12.5</td>
</tr>
<tr>
<td>47. The school library has helped me feel better about using computers to do my school work</td>
<td>29.5</td>
<td>22.3</td>
<td>17.0</td>
<td>17.0</td>
<td>14.2</td>
</tr>
<tr>
<td>51. The school library has helped me find stories I like</td>
<td>29.3</td>
<td>19.4</td>
<td>17.2</td>
<td>18.7</td>
<td>15.5</td>
</tr>
<tr>
<td>52. The school library has helped me read more</td>
<td>20.9</td>
<td>17.0</td>
<td>17.2</td>
<td>24.3</td>
<td>20.6</td>
</tr>
<tr>
<td>53. The school library has helped me get better at reading</td>
<td>18.2</td>
<td>15.2</td>
<td>15.8</td>
<td>25.2</td>
<td>25.6</td>
</tr>
<tr>
<td>54. The school library has helped me enjoy reading more</td>
<td>20.9</td>
<td>14.0</td>
<td>16.3</td>
<td>25.5</td>
<td>23.3</td>
</tr>
<tr>
<td>55. The school library has helped me be a better writer</td>
<td>15.5</td>
<td>16.9</td>
<td>17.9</td>
<td>24.7</td>
<td>25.1</td>
</tr>
<tr>
<td>61. The school library has helped me discover interesting topics other than my school work</td>
<td>22.6</td>
<td>21.4</td>
<td>17.1</td>
<td>17.6</td>
<td>21.3</td>
</tr>
<tr>
<td>62. Some of these topics are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63. The things I've learned in the school library help me study at home</td>
<td>16.6</td>
<td>21.7</td>
<td>21.4</td>
<td>22.8</td>
<td>17.3</td>
</tr>
<tr>
<td>64. The school library has helped me get more organized with my homework</td>
<td>12.4</td>
<td>17.7</td>
<td>19.5</td>
<td>25.1</td>
<td>25.3</td>
</tr>
<tr>
<td>65. The school library has helped me find information even when I am not at school</td>
<td>19.3</td>
<td>18.4</td>
<td>17.6</td>
<td>21.8</td>
<td>22.8</td>
</tr>
<tr>
<td>66. The school library lessons have helped me solve problems better</td>
<td>13.3</td>
<td>17.4</td>
<td>20.2</td>
<td>24.5</td>
<td>24.6</td>
</tr>
<tr>
<td>67. The school library has helped me when I have a personal concern or issue</td>
<td>10.2</td>
<td>12.1</td>
<td>13.8</td>
<td>24.4</td>
<td>39.6</td>
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<tr>
<td>68. Information in the school library has helped me decide what I need to do next with my school work</td>
<td>15.7</td>
<td>17.8</td>
<td>20.6</td>
<td>24.1</td>
<td>21.8</td>
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</table>


Note that number order is out of synchronisation because Todd removed non-responsive questions.
APPENDIX 3.4.14 continued

Todd (2004a) original Questionnaire Design continued

<table>
<thead>
<tr>
<th></th>
<th>How helpful the school library is with getting information you need?</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>The school library has helped me know the different steps in finding and using information</td>
<td>25.7</td>
<td>38.7</td>
<td>22.3</td>
<td>10.1</td>
<td>3.2</td>
</tr>
<tr>
<td>12.</td>
<td>The information in the school library has helped me work out the questions for the topics I am working on</td>
<td>27.2</td>
<td>37.5</td>
<td>21.3</td>
<td>9.9</td>
<td>4.1</td>
</tr>
<tr>
<td>13.</td>
<td>The school library has helped me find different sources of information (such as books, magazines, CDs, websites, videos) for my topics</td>
<td>34.0</td>
<td>30.2</td>
<td>19.3</td>
<td>11.6</td>
<td>4.9</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Now, some general things (ACADEMIC ACHIEVEMENT)</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>71.</td>
<td>The school library has helped me do my school work better</td>
<td>21.5</td>
<td>21.7</td>
<td>21.1</td>
<td>20.4</td>
<td>15.3</td>
</tr>
<tr>
<td>72.</td>
<td>The school library has helped me get better grades on my projects and assignments</td>
<td>26.1</td>
<td>26.4</td>
<td>19.5</td>
<td>16.5</td>
<td>11.5</td>
</tr>
<tr>
<td>73.</td>
<td>The school library has helped me get better grades on tests and quizzes</td>
<td>13.5</td>
<td>17.2</td>
<td>20.0</td>
<td>24.8</td>
<td>24.6</td>
</tr>
<tr>
<td>74.</td>
<td>The school library has helped me think harder about my school work</td>
<td>14.8</td>
<td>18.0</td>
<td>20.0</td>
<td>24.7</td>
<td>22.6</td>
</tr>
<tr>
<td>75.</td>
<td>The school library has helped me feel more confident about doing my school work</td>
<td>17.3</td>
<td>17.7</td>
<td>18.4</td>
<td>23.2</td>
<td>23.4</td>
</tr>
</tbody>
</table>


Note that number order is out of synchronisation because Todd removed non-responsive questions.
APPENDIX 4.1.2

Criteria for Selection for The Student Learning Through Ohio School Libraries Project

Any school (building) in Ohio may be selected for the research project if they meet the established criteria.

Minimum requirements:
- The school building includes at least one of the K-12 grades.
- The building library program is managed by a full time, certified library media specialist.
- The school library media specialist and the library program are instrumental partners in a systematic IL instruction program taught within the school.
- A physical school library exists within the building.
- A 2002 Ohio School District Report Card rating with supporting data must be available.
- The school must have a building IRN registered with the Ohio Department of Education.

The following areas (adapted from the January, 2003 draft of the Ohio Effective School Library Guidelines) will be used to evaluate the prospective school with regard to selection for the research project.

CRITERIA 1: (School Goals and Leadership)
Effective school library media programs support the mission and continuous improvement plan of the school district.
- The school library media program is central to the assessed needs of education stakeholders and is designed to impact student achievement.
- Library services are planned, developed and managed in accordance with research based best practices and evaluated program data.
- Library program leadership is provided by credentialed school library media specialists.

CRITERIA 2: (Curriculum)
Effective school library media programs support and enhance the curriculum and are an integral part of teaching and learning.
- The school library media program provides all students with up-to-date resource collections in a variety of media formats and readability levels that are aligned with the local curriculum, and support Ohio’s academic content standards.
- The school library media specialist collaboratively plans curriculum-based school library activities, instruction, and assessment with the classroom teacher.

CRITERIA 3: (IL) (Including technological and media literacies)
Effective school library media programs provide IL skills instruction.
- The school library media specialist, in collaboration with classroom teachers, teaches students how to access, evaluate, use, and communicate information efficiently and ethically based on academic or personal need.
- The IL instruction is tied to specific academic content standards and taught as an integrated process.
- The school library media specialist is engaged in the professional development of school staff in relation to IL.
- The school library media program encourages media and technological skills, which includes critical thinking skills and communication competencies; as well as the appropriate use of technology for information access, retrieval, production, and dissemination via electronic resources, networks, and the Internet.
APPENDIX 4.1.2

Criteria for Selection for The Student Learning Through Ohio School Libraries Project continued

CRITERIA 4: (Reading)
Effective school library media programs promote and encourage reading for academic achievement and life-long learning.
• The school library media program offers reading enrichment programs through participation in national, state and local reading celebrations and initiatives.
• The school library media specialist collaboratively plans reading activities with building teachers.
• The school library media staff engages in a range of activities to foster sustained love of reading.

CRITERIA 5: (Technology Resources)
Effective school library media programs provide, integrate, and utilize a technology rich environment to support teaching and learning.
• The school library media program uses technology to acquire, organize, produce, and disseminate information, and functions as a gateway to information.
• The school library media specialist provides leadership to students and staff in the use of electronic resources and the instructional integration of information technologies.


Note: The criteria specific to Ohio have been highlighted in red text.
APPENDIX 4.1.2

Interview Strategies for Individual Teacher Interviews
Teacher Question Sheet (for Interviewer use)

Regarding IL:

1. Put simply, what is your role at this school?……………………………………
2. If you don’t mind my asking (can obviously say NO to this question), how long have you been at this school?  <1yr  1-2yrs  3-4yrs  5-6yrs  7+yrs
3. Have you been on the library’s previous (and present) courses or are you aware of their content?
   Been on Course □  Not been □  Aware (see Probe) □
   Probe: If answer “aware”, how are you aware of this information?…………………
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………
   Probe: Do you use the following skills?  Show Teacher Question 2 ( IL) Sheet + show CARS Checklist + ask them to tick those that apply
   Probe: How often are these skills used?
   Every day □  Once a week □  Once a fortnight □  Once a month □  Rarely □  Never □
   Probe: Are they integrated into lesson plans?  Y  N  If Yes, in what way?  If No, why do you not use them?
   ……………………………………………………………………………………………
   …………………………………………………………………………………………
   …………………………………………………………………………………………
   …………………………………………………………………………………………
   Probe: Do you suggest that children use the library for their work?  Y  N
   Probe: How often?
   Every day □  Once a week □  Once a fortnight □  Once a month □  Rarely □  Never □
   Probe: Do you allow time for pupils to access the library during class time?  Y  N
   Probe: How often?
   Every day □  Once a week □  Once a fortnight □  Once a month □  Rarely □  Never □

4. Do the library and it’s staff help support you as a teacher?  Y  N
   Probe: Can you give an example of a time they did?  …………………………….
   ……………………………………………………………………………………………
   …………………………………………………………………………………………
   …………………………………………………………………………………………

XVI
5. In what way, if any, do you think the library supports reading and writing skills? …………………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………

6. Do you ever suggest the library as a place where children could look up information unrelated to the curriculum?  Y  N  If yes, could you give an example? ………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………

7. Would you ever use a library in this way?  Y  N

Regarding the questionnaire process:

1. Please read the two statements under Question 3 (Questionnaire) on your sheet. Do you think these two questions ask the same thing?  Y  N

2. Do you think your pupils could tell the difference?
   Y  N  Not all of them

3. Please read the two questions under Question 4 (Questionnaire) on your sheet. Do you think these mean the same thing?  Y  N
   Which question is clearer?  Q24  Q25

4. Do you think the length of the questionnaire would have affected the concentration span of the pupils?  Y  N
   …………………………………………………………………………………

5. Do you have any other criticisms relating to the questionnaire?
   …………………………………………………………………………………
   …………………………………………………………………………………

6. How do you think the questionnaire could have been made more user-friendly?  …………………………………………………………………………………
   …………………………………………………………………………………
   …………………………………………………………………………………

XVII
APPENDIX 4.1.2

Interview Strategies for Individual Teacher Interviews
Teacher Answer Sheet (for Teacher use)

Question 2 (IL): Do you use and/or recognise the following?

- Mind maps: Use ☐ Recognise ☐ Do not recognise ☐
- Skimming and scanning: Use ☐ Recognise ☐ Do not recognise ☐
- Book use: Use ☐ Recognise ☐ Do not recognise ☐
- Note-taking: Use ☐ Recognise ☐ Do not recognise ☐
- Website evaluation: Use ☐ Recognise ☐ Do not recognise ☐
- Research grids (below): Use ☐ Recognise ☐ Do not recognise ☐

E.g. also see sheet with CARS checklist:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Question 1 (Credibility)</th>
<th>Question 2 (Accuracy)</th>
<th>Question 3 (Reasonableness)</th>
<th>Question 4 (Support)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Independent Learning Cycle model (see separate colour sheet):
  Use ☐ Recognise ☐ Do not recognise ☐

- Other IL skills (please list):
  ………………………………………………………………………………………………………………………
  ………………………………………………………………………………………………………………………

Question 3 (Questionnaire):

Q44: The school library has helped me search the Internet more effectively.

Q55: The school library has helped me be more careful about the information I find on the Internet.

Question 4 (Questionnaire):

Q24: The school library has helped me find information, even when I am not at school.
Q25: Skills I have learnt from the school library have helped me find information, even when I am not at school.
APPENDIX 4.1.2

Interview Strategies for Individual Teacher Interviews
Teacher Example Sheet for IL skills section (for Teacher use)

Ref: (Interactive Learning Ltd., 2004).

Ref: Independent Learning Cycle Model, Dixons CTC, Bradford (Lydia Wayne design).
APPENDIX 4.1.2

Interview Strategies for Individual Teacher Interviews
CARS Checklist for IL skills section (for Teacher use)

The CARS Checklist for Source Evaluation model

| Credibility                  | A trustworthy source
|                             | Author’s credentials
|                             | Known or respected organisation
|                             | Evidence of quality control
| Accuracy                    | Up-to-date, factual, detailed, exact
|                             | Timeliness – correct today (not yesterday)
|                             | Audience and purpose fit your needs
|                             | Comprehensive subject; the whole truth
| Reasonableness              | Fair, balanced
|                             | Objective; lacks bias, fallacies, slanted tone
|                             | No conflict of interest
|                             | No inflammatory language
|                             | Moderate – lacks exaggerated claims
| Support                     | Listed sources
|                             | Contact information
|                             | Available corroboration/ referencing
|                             | Convincing evidence for claims made
|                             | A source you can triangulate (you can find at least two other sources that support it)

Ref: Dixons CTC, Bradford, ICT Department.
APPENDIX 4.1.2

Interview Strategies for Pupil Focus Group Interviews

Q1: If I asked you to find ‘good information’ what would you think I meant by the
word ‘good’?

FEEDER: What makes information ‘good’ when you are looking for it for a project,
or homework or school work? Any ideas? Any comments?

FEEDER: What is ‘Bad information’, why would you not use certain types of
information that you might find on the Internet or in books or magazines?

Q2: Does anyone have an idea what this means?

The school library has helped me find information, even when I am not at
school.

Q3: With this question, there is no right or wrong answer. I just want your opinion.
Could you read the following 2 statements and if you think they both mean the same
thing, please put up your hands.

Number of hands:……………

Statement 1: The school library has helped me search the Internet more effectively.
Statement 2: The school library has helped me be more careful about the information I
find on the Internet.

Q4: Again, no right or wrong answer, just tell me what happened! When filling in
the questionnaire, were there any questions that people didn’t ANSWER? Could you
put your hands up if you didn’t answer a question

No of pupils………………

Why didn’t you answer them? Were they confusing? Badly written? Didn’t want to
answer?

PROBE: At end of this question, put their hands up if any of the below apply.

Didn’t understand question because some words were complicated ……………votes

Didn’t answer because you weren’t sure what the question meant …………..votes

Couldn’t answer because library had never helped you in this way ………………votes

Didn’t want to answer. ………………… votes

Ran out of time. ………………… votes

Other: …………………………. ……………………… votes
APPENDIX 4.1.2

Interview Strategies for Pupil Focus Group Interviews continued

Q5. (CALMING…….) (I’M RELAXING NOW!)

OK! I’m about to pass around a box of chocolates, please take a chocolate, but whilst you do, I want you to think of a time when you were in the library and you were you looking for some information. It could be anything; a single fact you were after, information for homework, projects, revision or just something for your own personal interest (latest football scores, the latest way that Beyonce has her hair up).

What help did the library staff give you to look that information up. It can be any help, no matter how small or big! Just quietly sit back for a few minutes and when you have thought of something, put your hands behind your head in a relaxed manner, like this. When a few people have their hands up, we’ll begin.

Q6. Put your hands up if you would have been happier filling out the questionnaire online.

No. of pupils……….

Q7. Put your hands up if you would have found the questionnaire more interesting if I had come in beforehand to explain why we were doing it?

No. of pupils……………………

Teachers explained it!

…………………………………………………………………………………………
…………………………………………………………………………………………

Q8. Please read this statement. Can anyone tell me what it means?

FEEDER: Does anyone disagree?

Q9. Are there any other issues that people want to mention about filling in the questionnaire?

…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………

XXII
APPENDIX 4.3.5

Ohio District Report Card (Page 1) for Grades 9-12

Ref: (Ohio Dept of Education, 2004).

XXIII
APPENDIX 4.4.2

Todd’s 9 further ‘helps’ statements (Todd, 2004a).

1. The school library saves me time with doing my school work
2. The school library enables me to complete my work on time
3. The school library helps me by providing a study environment for me to work in
4. The school library helps me take stress out of learning
5. The school library helps me know my strengths and weaknesses with information use
6. The school library helps me think about the world around me
7. The school library helps me do my work more efficiently
8. The school library provides me with a safe environment for ideas investigation
9. The library helps me set my goals and plan for things
### APPENDIX 4.4.6

Adapted Todd Questionnaire used in Dixons CTC study

<table>
<thead>
<tr>
<th>No</th>
<th>Questions</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Doesn't apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The school library has helped me know the different stops in finding and using information</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>The information in the school library helped me work out the questions for the topics I am working on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The school library has helped me find different sources of information (such as books, magazines, CDs, websites, videos) for my topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The school library has helped me know when I find good information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The school library has helped me find different opinions about my topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The school library has helped me feel better about finding information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The school library helps me feel good about asking for assistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Computers in the school library have helped me do my school work better</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>The school library has made me more interested in computers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Computers have helped me find information inside and outside the library</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11</td>
<td>The school library has helped me search the Internet better</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td>The school library has helped me be more careful about information I find on the Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Computer programs (like PowerPoint, Word or Excel) in the school library help me do my school work</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>14</td>
<td>The school library has helped me feel better about using computers to do school work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>The school library has helped me find stories I like</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>The school library has helped me read more often</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>17</td>
<td>The school library has helped me get better at reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>The school library has helped me enjoy reading more</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>The school library has helped me be a better writer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>The school library has helped me discover interesting topics other than my school work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Some of these topics are: ........................................................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>The things I've learned in the school library have helped me study at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>The school library has helped me get more organised with my homework</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>The school library has helped me find information, even when I am not at school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>The school library lessons have helped me solve problems better</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>The school library has helped me when I have a personal concern or issue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Information in the school library has helped me decide what I need to do next with my school work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Participant Identification Number: **

XXV
APPENDIX 4.4.6

Adapted Todd Questionnaire used in Dixons CTC study continued

<table>
<thead>
<tr>
<th>No</th>
<th>Questions</th>
<th>Most helpful</th>
<th>Quite helpful</th>
<th>Some help</th>
<th>A little help</th>
<th>Doesn’t apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>The school library has helped me know how to use the different kinds of information sources (such as books, magazines, CDs, websites, videos)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>29</td>
<td>The school library has helped me work out the main ideas in the information I find</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>30</td>
<td>The school library has helped me get better at taking notes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>31</td>
<td>The school library has helped me put all the ideas together for my topics</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
</tr>
<tr>
<td>32</td>
<td>The school library has helped me to put ideas into my own words</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>33</td>
<td>The school library has helped me think about how I should go about finding information next time</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>34</td>
<td>The school library has helped me know that research takes a lot of work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>35</td>
<td>The information I have found in the school library has helped me become more interested in my topics</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>36</td>
<td>The school library has helped me remember my school work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>37</td>
<td>Two of the classes where I have remembered more school work are:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>38</td>
<td>The school library has helped me get the first facts about my topics</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>39</td>
<td>The school library has helped me learn more facts about my topics</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>40</td>
<td>The school library has helped me when I do not understand some things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>41</td>
<td>The school library has helped me decide if my own ideas are good or bad</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>42</td>
<td>The school library has helped me change my mind about things that I thought I knew</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>43</td>
<td>The school library has helped me work out my own opinions about things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>44</td>
<td>The school library has helped me connect different ideas I already have</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>45</td>
<td>The school library has helped me talk more in class discussions</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>46</td>
<td>The school library has helped me do my school work better</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>47</td>
<td>The school library has helped me get better marks on my projects and assignments</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>48</td>
<td>The school library has helped me get better marks on tests and quizzes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>49</td>
<td>The school library has helped me think harder about my school work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>50</td>
<td>The school library has helped me feel more confident about doing my school work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>51</td>
<td>Do you feel these questions went on for the right amount of time?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>52</td>
<td>If there were questions you did not answer, please tick any of the boxes that best explain why or add your own comments in the &quot;Other&quot; section.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Too short</th>
<th>Just right</th>
<th>A little long</th>
<th>Far too long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Didn't understand some of the words</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Didn't understand the question</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Didn't want to answer the question</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Ran out of time</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Participant Identification Number: ..............
APPENDIX 5.3.1.1

Coding of Interview data according to Todd’s 7 Themes

1. Getting Information

• IL literacy and teachers
  • How does teacher use IL in work?
    • Search engines: "I put constraints on the tasks you set pupils when using search engines, e.g. give them a list of search terms". "We also use online search engines which we guide them to...I'm not happy just putting them online and letting them go, I like to guide them about what to look for and what they expect to get out of it".
    • IL Literacy in the classroom.xls
    • "Let them go straight online and decide for themselves what is the best resource, guiding as they go"
    • Tutorial & Guidance sessions: "we set up a standard study skills training that all teachers try and use so we are all singing from the same hymnbook. But we still get variation, for example, the mathematicians will show that all graphs should have straight lines, but in science they don't, they curve!"
    • Teachers find suitable websites: "thus we can trust the sources and it saves time." "We guide them to sites they can use"
    • We use Research Grids occasionally: we set up a question and break it down, suggest sources to look at

• Have pupils been on IL courses?
  • Teachers sit with pupils on IL courses

• Has teacher been on IL courses?
  • What do they teach? "How to use the library, the best way to use the library, also sessions about researching and the best way to find info. and how to use the info once they have found it" "Vaguely aware of what they teach the pupils, mainly through talking to the pupils".
    • Not been: had an induction session when first started (2 teachers)
    • Been to a few evening courses; "general courses for staff"
  • Yr7 courses occur when pupils first arrive and I sit in on those (3 teachers)
"Pupils don't realise they have been taught specific IL skills" (2 teachers) - (author note) thus the questions in the questionnaire, being 'helps' could ask the correct reminder questions to identify that pupils remember skills by not using the standardised terms for those skills (ie. 'I remember a time when' = help vs. I use note-taking skills =skill)

- How often do you use the library? Does it help you or the children?
  - Suggest pupils use the library: "especially for A-level as they should read around a subject. Whether they do is another matter entirely!"
  - Only in class time: "if students want to use the library in class time a teacher needs to be present, so we only use a library in class time"; "some students want to use the library after or before school for homework"; "Depends on behaviour, high quality sets can use the library outside the class"; "legally we're responsible for pupils during class time so not normally allowed out to the library". "we use the library regularly, bring in whole groups to do project work, how regularly depends on the topics that are being done (energy, habitat, solar system, the Earth, mainly stuff that requires researching facts)". "There is a supervision issue with letting children out of classes, we may let certain children into the library on occasion, but not often".
  - Depends on the work: "on the project work or coursework, if project work is occurring we have a whole lesson" "For Dinosaurs for Yr7 we come along to the library and the library helps, at the simplest element, by collecting all the books together" "The library will help kids when they've got problems". "With most sets I use the library for something, termly, about 5 times a year. But only for larger work, not general research" "Fortnightly for shorter tasks where they use library in their own time"
  - Not often: (1), "if I was going to use the library I would use it for a whole lesson"
  - Age dependent: Yr 7 who has never used a library before, no way. Yr 11, if well behaved, then fine!
  - The majority of kids use the library for working, whether its as a workspace or as a work resource, but I suggest they use the library.
- Does teacher use IL?
  - Are lessons integrated with IL? Art: Very well integrated. Although more informally than using formal research grids, etc. Mainly discuss with the children. T&g sessions we run training courses in learning skills and each teacher runs the same course so we all sing from same hymnbook, although we
still get variation.

- How are the skills gained? Pick things up that the students and library use. Very well used within the college. Do it by accident, we find a suitable website and use it.

2. Using information to complete your school work.

- Getting facts about topics, deciding if ideas are good or bad, connecting ideas, remembering school work.
  - Remembering school work
  - Connecting ideas, are they good/bad
    - How to use info: "there is a course on finding information and the best way to use that information for younger years"

- General use of IL skills
  - In terms of IL skills, we do expect kids to be able to write in essay form, do research out of books, evaluate and look at sources and this increases from Yr7 to Yr13. We don't attempt to match that up to any standard method though
  - Getting facts
    - No control over what students will research, e.g. A-level students who are set a project and come back with really obscure artists, it is difficult to qualify the information and it is also very difficult to find further info for them
    - Best way to find info: there are courses on this for younger years

3. Your school work in general.

- Learning facts, understanding topics, having ideas and opinions
  - Understanding Topics
    - Skimming and Scanning: a useful way to see if pupils understand the topic they are reading as I set certain particular texts that require understanding
    - Truth on websites: "the brighter ones, especially, tend to realise that not everything is completely true on websites" (KS4).
    - Learning through Coursework: the younger ages are taught how to find info and how to understand what they have found

- Book collections
  - "I tend to use the Internet as if they are all after the same..."
book it's just impossible”.

- Book stock: "we have a fantastic book collection here, there is no reason why the pupils shouldn't be using the books”.

4. Using computers in the library, at school and at home.

- Using Computers in the Library
  - Library as a provider
    - "I'm not sure students would understand how much (Internet searching) help they would get from the library"; "students use library so much, day in, day out. It is a resource that is always available to them, use it in a lot of lessons, are trained how to use it!... they are good at researching, they know how to use the library. Different schools I have worked at do not have the access to the library we have here, there have been few books, no computers and it tends to be a big thing to go to the library. The larger size of this library, the computers, the 6th form zone, the vast collection helps for specialist subjects (Art)".
  - Helps them be independent
    - As long as pupils have the skills
    - "Cases where they come back with interesting things"
  - Pros of Internet Use
    - "Use the library books as a last resort"
    - "Always use the Internet, computers have changed everything, haven't they!".
    - Fast access to a wide variety of data, just need to know how to use the Internet effectively
  - Home Use
    - Independent study: "if I give them independent study, they all have Internet at home so they all use their home pc's. Those who don't have pc's (a couple), use the library or computer room pc's"
  - Probs with Online information and solutions to these issues
    - Teaching pupils to use Internet:it very much depends how you phrase the question as to how they look for the information, getting them used to finding a source by pointing them in the right direction as it is not an easy skill to pick up.
    - Discuss with the pupils what they should be doing, where they went wrong,
    - A bit reluctant to let them use the Internet
    - No control over what students will research, e.g. A-level students who are set a project and come back with really obscure artists, it is difficult to qualify the information and it is

XXX
also very difficult to find further info for them

5. Your general reading interests.

- Libraries as a Reading & Writing Support Provider
  - Giving access to books
    - Taking kids through how to use the library when they first come in
    - "Gives kids access to books, which is the main thing!"
    - "They have a section for baby-sitters, boys for sport (we've had lots of olympics books), there is a teachers reading scheme!"
  - Reading competitions (Carnegie)
    - They do have the reading clubs, encouraging students to read, but not really my area (researcher note: this could be why Lydia has been able to get this off the ground, as no teacher seems to own it!)
    - All very good, but: "tends to be the brighter children that volunteer to do it! So it doesn't necessarily help the lower ability ones."
    - Am aware they use Carnegie, but have nothing to do with it myself as it is not my subject area (2 teachers)

- Writing Skills
  - 6th form: library does an intro for 6th form, I imagine for Yr7 as well
  - GERTS grids as a recording tool: library showed me how to use GERTS grids for recording to help the kids read and record the data
    - "Not that influential, more for reading"

- Research
  - Tend to use Internet: "as if they are all after the same book..."
  - You have some control over what the pupils will be reading, unlike the Internet.
  - Stock preparation before lessonse.g. Had a topic on children's illustrations, "librarian sat down with children and went through the various book awards and was able to show them the cutting edge of children's illustration. That was really useful". "If I decide to use books, which I often don't, I would ask the library to prepare books and take them to the class to use in the lesson"; "we do a research project every year about
• Lower ability children
  • "Getting them into the library as most of them just do not want to read. Provide more opportunities to get into the library, such as go to the library get a free lollipop". "Opening the library later or earlier, it gives them somewhere to go when they get here, but there are other meeting areas for those times as well, so maybe not so effective"

6. Helping you when you are not at school.

• Discussions, improved marks, confidence, improvements in work
• Website evaluation
  • I think website evaluation improves with age
  • Improved evaluation: a GNVQ which had the criteria "evaluation of and validity of sources", so they had to work out why they trusted the source"
  • "Website evaluation hasn't improved with age in my class: evaluation isn't a thing they do unless they are specifically prompted to! If you ask them whether it is a good site, they will go off and find out for you, but left to their own devices they’ll assume that everything they find on the Net is equal.

7. Improving academic achievement

• Homework, problem solving, non-curricular subjects, personal issues and careers
• Homework
  • Skimming and Scanning: "I set homework for higher ability sets and older kids, asking them to read certain areas of text and make notes so they are prepared for a lesson"
  • Non-curricular homework: such as find the most dense element, which is not a part of the curriculum (researcher note: this is researching skills, IL skills).
• Personal use
  • I use the library for research
  • I would use the library as a last resort if I couldn't find info on the Internet. I would tend to use the Internet
  • Often too busy, would like to use the school library
• Careers
  • I would direct them to the library and the careers dept: "post-16, for instance, are unaware of the entry requirements for certain courses and they just don't know where to look. It
may seem like a one-off thing, but their choice is VERY important! Library would use it for their first port of call, if nothing else!"

- **Non-curricular**
  - Would use the Internet: "computers have changed everything"
  - For Teacher studies: 1 teacher said "I borrow books on things from the school library for the work I do"
  - For A level students: Art (should be looking at creative review or crafts magazines to gain a wider understanding outside the curriculum.
  - For older pupils: will suggest they read around the subject

- **T&G (Tutorial and Guidance**
  - Got the library to buy stuff on canoeing and stuff for outdoor sports

- **Independent Learning**: "they tend to do most of this on their home pc's or the library and computer room pc's"
  - "I suggest the library books, particularly for PSHE type-stuff, as the pupils are not aware of it; they don't realise it even exists as a subject (you know, sex, drugs and rock n roll type-stuff)."

**EXTRA CATEGORY:**

- **Library as a provider**
  - Librarian has resources to buy books and talks to teachers about book selection (3 teacher)
  - "I'm not sure students would understand how much (Internet searching) help they would get from the library"; "students use library so much, day in, day out. It is a resource that is always available to them, use it in a lot of lessons, are trained how to use it!... they are good at researching, they know how to use the library. Different schools I have worked at do not have the access to the library we have here, there have been few books, no computers and it tends to be a big thing to go to the library. The larger size of this library, the computers, the 6th form zone, the vast collection helps for specialist subjects (1 teacher)".
  - ":[Pupils] tend to pick up the skills without knowing the library helps. They may understand the process, but are not aware what it is called so may not identify it." "They're taught it, but if you ask them, they never admit they've been taught it. Because they don't think they have, they say "Oh yeah! We do that, but I didn't realise you meant we had been TAUGHT it! We just kind of do it." in other words, I never say that we're going to do a lesson on note-taking, I just say, get out some highlighters and look through this text for the key points"(2
• Getting together book collections (5 teachers)
• Take books into the classroom for us (3 teachers)
• If we haven't used Research Grids for a while, a library staff member will remind them, take them through it (1 teacher)
• Librarian told me about these new "hot topic" pamphlets, they tell me what Internet sites are relevant, etc.
• "With the previous librarian, I looked at various websites and writing questions to go with those websites, creating your own mini-website so the kids can kind of use your route of finding information"
• "The librarians get cuttings out of the newspapers for me on certain subjects"
• "Have never failed in a task that I have set them"
• "In the past, they help us put together library projects, but it has happened less as we already have library projects there so it is not needed at this stage! (But for Dinosaurs, the website has gone, my predecessor collaborated with the librarian to set it up (note: this teacher started 2yrs ago)"
APPENDIX 5.3.1.1

Responses to the open-ended Question 21: The school library has helped me discover interesting topics other than my school work, some of these topics are.....

<table>
<thead>
<tr>
<th>Question 21</th>
<th>Question 21</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male Yr 7</strong></td>
<td><strong>Female Yr 7</strong></td>
</tr>
<tr>
<td>Smoking Project in English (5), English, Geography (3), Art, D&amp;T, Biology, History (2), Astronomy, Business Studies, German, Science, Sports (5), History of Bradford (3), Football (2), Fiction, algebra, Skipton Project (2), wide variety of other interests (17 different subjects)</td>
<td>Health &amp; Safety (2), Smoking Project in English (10), drawing, English (2), History (2), Countries, Castles (4), Fashion, Religion (2), Judaism, Humanities, D &amp; T, Out-of-school activities (2), Electronic switches, Animals, Carmen, Board Games, What teens need to know, dress making, Fiction genres, writing styles, non-school education</td>
</tr>
<tr>
<td><strong>Male Yr 8</strong></td>
<td><strong>Female Yr 8</strong></td>
</tr>
<tr>
<td>English, Fiction books (3), Science, Music, Art, D&amp;T, Geography, IT (2), Chemistry, Medicine, Sport (8), Business Studies, Movies, Football (4), Biographies, Religion, Health, Website Design (5), 6 other categories.</td>
<td>Fiction books (6), Geography, Business Studies, Fashion (2), Beauty, Pets (2), Music (2), Cooking (2), 8 other non-fiction topics.</td>
</tr>
<tr>
<td><strong>Male Yr 9</strong></td>
<td><strong>Female Yr 9</strong></td>
</tr>
<tr>
<td><strong>Male Yr 10</strong></td>
<td><strong>Female Yr 10</strong></td>
</tr>
</tbody>
</table>

Responses to the open-ended Question 37: Two of the classes where I have remembered more school work are.....

<table>
<thead>
<tr>
<th>Question 37</th>
<th>Question 37</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male Yr 7</strong></td>
<td><strong>Female Yr 7</strong></td>
</tr>
<tr>
<td>English (14), Science (15), History (4), Geography (4), German (2), Art (2), RE (2), &quot;All subjects&quot;.</td>
<td>English (13), Science (3), Geography (10), History (6), ICT, German, Art, RE, Spanish, Business Studies, Maths, Poems, Smoking. Quote &quot;in the library and in class&quot;, so misunderstood question.</td>
</tr>
<tr>
<td><strong>Male Yr 8</strong></td>
<td><strong>Female Yr 8</strong></td>
</tr>
<tr>
<td>Geography (12), History (5), IT (9), English (3), Science (2), Music (4), Maths (5), Art (2), D&amp;T (2), Business Studies, Food Technology, N/A (1).</td>
<td>English (5), Geography (12), Science (2), RE (8), Homework Club, Maths (2), History (6), Music (3), ICT, Pop Music, Library</td>
</tr>
<tr>
<td><strong>Male Yr 9</strong></td>
<td><strong>Female Yr 9</strong></td>
</tr>
<tr>
<td>English (4), Science (4), History (3), IT (2), Geography (2), Art (2), D&amp;T, German, Humanities, Maths, Music</td>
<td>English (5), Geography (6), History (3), D&amp;T (4), RE (2), Science (2), Humanities (2), Art, German, Music</td>
</tr>
<tr>
<td><strong>Male Yr 10</strong></td>
<td><strong>Female Yr 10</strong></td>
</tr>
<tr>
<td>English (5), History (9), D&amp;T (7), Science (3), Geography (3), Art, RE (3), IT, Business Studies, Maths (2)</td>
<td>English (5), Science (3), Geography (4), D&amp;T (3), History (4), RE (2), Art (2), Maths, Music, PE (2), Quote &quot;N/A&quot;</td>
</tr>
</tbody>
</table>
Appendix 6.2.2

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think these two questions ask the same thing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q44: The school library has helped me search the Internet more effectively (Q11)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q55: The school library has helped me be more careful about the information I find on the Internet. (Q12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you think your pupils could tell the difference?</td>
<td>1</td>
<td>2</td>
<td>2 said &quot;Not all of them, depends on set and level of pupil&quot; I said &quot;They would have to ask questions, many would not see the difference without a great deal of thought&quot;</td>
</tr>
<tr>
<td>Do you think these two questions ask the same thing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q24: The school library has helped me find information, even when I am not at school.</td>
<td>2</td>
<td>3</td>
<td>(no)What the library does and what the school does is different: &quot;a lot of students questioned this and asked what does that mean?&quot;; &quot;When you see the term 'school library' in Q24, that could mean the staff have helped me or my memory of the school library, whereas Q25 actually says the word 'skills'&quot;.</td>
</tr>
<tr>
<td>Q25: Skills I have learnt from the school library have helped me find information, even when I am not at school.</td>
<td>2</td>
<td>3</td>
<td>(No)&quot;skills are something you hold on to, like lifelong learning, whilst relying on the school library, you would assume you only do that whilst you are at school and have access to school&quot;;</td>
</tr>
<tr>
<td>Which question is clearer?</td>
<td>Q24</td>
<td>Q25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td>(Q25)Puts emphasis on the student rather than the librarian, (Q24) kids would understand Q24 better, but Q25 is actually a better question as Q24 I misread (I read it as, &quot;I can access the school library, even when I am not at school. So I'm thinking, how could I get on to the ALICE system from home). Q24 is about getting a book out, Q25 is someone teaching me a skill I can use outside a library.</td>
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<td>Do you think the length of the questionnaire would have affected the concentration span of the pupils?</td>
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<td></td>
<td>Yes</td>
<td>No</td>
<td>Comments</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td>Went through it quickly; &quot;if it had been any longer it would have&quot; &quot;Did it in half an hour, easily within that age groups attention span&quot;.</td>
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**Content Analysis of Interview Questions (Teachers)**

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<th>How do you think the questionnaire could have been made more user-friendly?</th>
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<td>Make the writing a bit bigger. A discussion about this would have been more useful, instead of just being given it cold. Smiley faces should have been smiley to sad faces, there wasn't a lot of space on the &quot;listing&quot; questions; Making it web-based would have made it more friendly, some students in my class didn't want to do it as it was a paper-based one; on paper it is easier, to make it web-based we would need a room full of computers, all working, with all the kids logged on and no other problems so it is easier to hand out paper and fill it in, no technical problems; one or two mentioned that the space left for additional was small, spare paper is often ignored (or mention spare paper is available at each of these questions); practically it was quick and easy; USE COMIC SANS font; our kids always do these things so won't be phased; if online or not, different kids are different, so doesn't matter; I would have liked to have seen it all on one side of paper, I think many pupils didn't realise there was a second side, so when they turned over they were a bit upset - if you show them what they have got to do initially, it would help, or 2 times 1 side&quot;, &quot;I think the general introduction was fine (that you gave us [Info Sheet]), i don't think any more info was needed than that&quot;.</td>
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<th>Do you have any other criticisms relating to the questionnaire?</th>
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<td>Some of the questions weren't that clear Q21, Q27 and Q49 (asks - think harder about my school work?) &quot;this required reflection and some children had trouble with that&quot;: post-16 or GCSE students could cope with this, but lower school students would find it hard. + some weaker students would just guess; looked quite long originally, but the kids whizzed through it; pupils were perplexed by Q24, the &quot;even when I am not at school&quot; confused them; it was hard to fill it in as a pupil's perspective - are you filling it in as the brightest, middle or cleverest pupil? or someone who goes to the library or not. I tried to fill it in as a middle ability member of the group, but each pupil will have had different experiences; the TEXT SHOULD BE IN COMIC SANS as dyslexic people read a's better if an a does not have a hat; got through it fairly quickly but I'm not sure they answered it as thoughtfully as they might have done if it was a bit shorter, so the length could be less.</td>
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