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IMPACT OF SCHOOL LIBRARY SERVICES ON ACHIEVEMENT AND LEARNING IN PRIMARY SCHOOLS

**Critical literature review of the impact
of school library provision on achievement
and learning in primary level students.**

by
***Professor Dorothy Williams
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ABSTRACT

This critical literature review examines research linking educational attainment and school library use at primary level and complements a review examining the links between educational achievement and school library provision at secondary level, completed at the end of 2001. The study was funded by Resource: The Council for Museums, Archives and Libraries to inform the work of the Department for Education and Skills Task Group set up to implement actions contained in the Government's response to "Empowering the Learning Community".

The aim of the literature review was to examine evidence from research conducted in the UK and abroad linking learning in its widest sense, encompassing processes and attitudes, with library provision, including the type of resources, nature of access and staffing. The evidence was then analysed in relation to: its applicability to primary school libraries and Schools Library Services in England; methodologies that could be used to assess impact of library provision on learning; and any gaps in the research.

There was a body of research supporting the view that primary school libraries can have a positive impact on academic achievement particularly when accompanied by appropriate action to ensure the service delivery is efficient and effective. However, much of this evidence was from countries where school librarians have a teaching qualification and more research is needed to determine the extent to which the evidence is transferable to England. There is limited research demonstrating the view that school libraries have the potential to impact on the broader aspects of learning, including vulnerable or special needs students.

Where there is evidence of impact on learning, there are associated key factors of collection levels, library staffing levels and collaboration between the librarian and teacher. Training of teachers and librarians is demonstrated to raise mutual understanding of each other's contribution and roles within the school library setting. Training should include information skills development, collection mapping, planning and evaluation.

There is no clear evidence to indicate the contribution made to learning by the various models of school library provision, although flexible scheduling appears to be an important factor in encouraging student use and to be effective this requires a full-time qualified librarian managing the resources. The presence of a librarian and the quality and frequency of their instructional input has an impact on learning but the relationship between this and qualifications and personal attributes and experience is less clear. School librarians who take a professional and proactive approach to their role within the school can cite evidence of their impact on teaching and learning; and are more able to reflect, self-evaluate and develop the service further.

The report recommends that:

- Research should be conducted to establish the extent of the existence of different models of library provision in primary schools.
- Research should be conducted into the impact of the different models of library provision on student learning.

- Research related to the National Literacy Strategy should be reviewed in relation to the use and management of library collections, selection of resources by teachers, and how such issues impact on learning.
- Consideration needs to be given to ensure pre-service training and professional development training of both teachers and librarians addresses the need for greater understanding of their professional contributions to learning in school libraries.
- Consideration should be given to identifying and piloting process and outcome standards appropriate for use in primary school library provision.
- Ideally all primary schools should have the funds to support the service of a qualified full-time librarian to manage well-resourced school libraries. As the situation stands, priority should be given to identifying appropriate models for:
 - training for teachers in library management and resource integration within the curriculum;
 - training in curricular issues and resource integration for librarians working in Schools Library Services, Public Libraries and volunteers working in school libraries;
 - ensuring that all primary schools have the support of a Schools Library Service;
 - establishing close relations between Schools Library Services and education departments.
- Once some of the above measures have been put in place, it would become more appropriate to undertake the kind of longitudinal study of impact of primary library provision on learning, based on the implementation of appropriate standards, as recommended in the previous secondary report:
 - adapt the quantitative studies used in the USA for use with KS1 and KS2 SATs and pilot to establish whether the methodology is transferable to the English primary education;
 - implement appropriate intervention(s) related to training and standards (see above);
 - apply a qualitative evaluation of the intervention using the standards and any indicators developed. Apply the adapted Lance model again after intervention(s) to identify any impact on learning.

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Research Protocol

1 INTRODUCTION

In October 2001, the Task Group, set up under the auspices of Department for Education and Skills to implement actions outlined in the Government's response to "Empowering the Learning Community" (2001),¹ commissioned a critical review of the literature examining the links between educational attainment and school library use in secondary schools.

The reported literature review indicated that much of the evidence of impact of the school library on achievement and learning has been generated at the primary and early secondary level. As a result of this finding, the task group requested a supplementary report considering the impact of library provision on attainment and learning on primary level students.

The purpose of this supplementary report is therefore close to that of the original review of literature, and should enable the task group to make decisions on further developments using the evidence of relevant research in the field. The work of the task group is to consider:

- existing research linking educational attainment and school library use;
- levers which support the development of school libraries;
- raising awareness of what works best by disseminating the results of a series of pilot studies.

1.1 Aims

The aims of the supplementary review echo those of the original critical review of literature but with specific reference to the primary educational sector, i.e. to:

- identify research which has been undertaken on the impact of the school libraries on attainment and learning. A series of key questions in this area has been identified by Resource and where research has been carried out in these areas the review summarises key points covered and conclusions offered;
- analyse the applicability of the research to school libraries and Schools Library Services (SLSs) in England in relation to the primary sector;
- identify gaps in the research and suggest areas for further research;
- identify methodologies which school libraries and SLSs in England can use to assess the impact they have on attainment and learning.

This primary sector literature review is intended to be read as either a standalone report or in conjunction with the previous secondary sector review. There will therefore be some duplication in the discussion between this report and the previous review. However, it is likely that there will be points of interest in each report that will be of interest to readers approaching the subject from different perspectives.

1.2 Scope of the Review

The scope of this literature review, which is similar to that of the previous secondary review, was defined by Resource and outlined in the briefing notes for the first study. The Task Group

¹ DfEE/DCMS [2000/2001] *The Government's response to the report of the Education and Libraries Task group: Empowering the Learning Community*
<http://www.lifelonglearning.co.uk/etlc/> [25/06/01]

recognises the importance of learning in its widest sense and therefore the review sought a broad definition of learning to encompass not only academic attainment but also the aspects of learning reflected in processes and attitudes. The definition from The Campaign for Learning neatly encompasses this range of learning experiences:

“Learning is a process of active engagement with experience. It is what people do when they want to make sense of the world. It may involve an increase in skills, knowledge, understanding, values and the capacity to reflect. Effective learning leads to change, development and a desire to learn more.”²

The scope of the review is further widened to take account of the current variation in school library provision, as well as the variation in support given by a non-statutory LEA Schools Library Service, as recognised in the Government’s response to “Empowering the Learning Community”³. Thus, the key questions for this review, examine impact on attainment and learning in comparative terms which take account of the current variation in services, roles and background of staff. The Task Group agreed to limit the review to documents published after the introduction of the National Curriculum in 1988.

The questions and key areas of discussion that were used in the first review remain pertinent to this review, with the difference being that the emphasis of discussion has shifted from the secondary to the primary educational sector.

1.3 Methodology

The study took the form of a desktop critical review bringing together the key findings from a range of research reports and literature detailing research investigating the relationship between libraries and educational attainment and learning conducted in the UK and worldwide.

Much of the initial work of this supplementary review has already been carried out for the report on the impact of school libraries on achievement and learning in secondary level students (Williams, Wavell & Coles, 2001). An extensive literature search had therefore already identified research in this area and a database of significant quality-assessed literature was available to the researchers.

As in the original review, learning is defined in its broadest context and includes attitudes and enrichment as well as attainment and learning in the form of progress in learning and test results. The limitations imposed in the first study in terms of date (pre-1988), language (English) and document availability also apply to this review. However, due to the change in focus of the review, literature included in the first review has been re-examined to ensure that all significant documents are considered from the perspective of the primary sector. This has particular relevance when considering the staffing and resourcing of primary school library provision in England. The primary sector literature review reported on in this document has adhered to the following steps:

- review of the literature included in the original annotated bibliography;
- review of the literature included in the original extended bibliography;

² [©1998-2001]Campaign for Learning Home Page [online] <http://www.campaign-for-learning.org.uk/> [07-11-01]

³DfEE/DCMS, op. cit. 1

- review of the literature rejected at the second selection phase for the first bibliography - many items rejected at this stage of the first review were rejected because they focused principally on the primary sector;
- re-examination of the original search strategy to identify further search requirements;
- further searches to be carried out as appropriate;
- analysis of the literature as it relates to the primary sector;
- presentation of conclusions drawn from this analysis following the format of the original report, with a particular focus on school library provision at the primary level;
- compilation of an annotated bibliography.

Two researchers, following sound systematic review practice, have worked in tandem to extract data and establish the quality of the research from reports that have been obtained for in-depth review.

1.4 Presentation of the Review

The questions raised by the Task Group are discussed below under the broad themes of:

- impact on academic attainment, i.e. performance in formal, national or local curricular tests;
- impact on broader learning issues, i.e. personal achievement in other areas of learning;
- service provision, i.e. the type of services provided by any model of school library, Schools Library Service, or joint public/school library; and
- professional expertise, i.e. the professional qualifications, training, experience and attitudes of the person in charge of the library provision for schools.

In the conclusions and recommendations section, the key findings are analysed in relation to:

- the applicability of the research to school library services in England;
- any gaps in the research and suggestions for areas where further research is needed;
- strategies and potential methodologies identified in the literature that have the potential for adoption within the English school library context.

References in each of the four themed sections are included in the annotated bibliography which also provides details on additional documents not mentioned or reviewed in depth but which provide valuable additional insight into the topic. This category includes a limited number of articles relating to the key documents in this area (e.g. Library Power; standards and evaluation methods). Other documents in the bibliography were considered of interest but not studied in-depth due to problems of accessibility (e.g. Inter-Library Loans (ILL) not received within the time-scale), or did not meet the review criteria of date, quality primary research, and a major focus on school libraries and learning. Where possible items are annotated with brief descriptions of the entry and its significance to this review.

In a number of cases analysis of research has been conducted through secondary sources, such as journal articles, reporting on primary research. In these circumstances, it has not always been possible to establish the quality of the research as thoroughly as would be ideal due to lack of detail provided about methodologies and sample sizes.

School library terminology

The terminology used within the report refers to school library, librarian and other recognised English terms. The use of the term librarian assumes qualified status: for unqualified staff the term library assistant has been used. These terms have been chosen for convenience rather than any preference in the current debate concerning the appropriateness of particular terms in modern service provision. Schools Library Service (capitalised) is used to mean centralised authority-wide Schools Library Services (SLS). However, the annotated bibliography may contain references to terminology used within the specific study and appropriate to a country of study outwith the UK.

What is meant by primary level education?

Regardless of distinctions within and around primary education in England (infant, junior, middle), primary education for the purposes of this report is regarded as Reception to Year 6, i.e. the age range 4 to 11. While concentrating on this age group, differences in education structures world-wide has meant that we have sometimes included research relating to sectors encompassing an older age-group. For example, in America there is a great deal of research focussing on both the elementary and the middle school sectors. While the elementary level is within the focus of this review, the middle school level encompasses the later years of English primary education and the first years of English secondary education. However, as primary-age pupils are included in the research, it has been considered relevant to this review.

2 THE REVIEW OF THE LITERATURE

2.1 Impact on Academic Attainment

2.1.1 Introduction

Academic attainment, in this context, considers formal learning associated with the set curriculum and performance in national or local tests. This includes processes associated with reading literacy, attainment of subject knowledge, and information literacy. The prominent research at the primary level has concentrated on reading literacy.

The discussion examines the evidence from research which establishes a link between school library provision and academic attainment and whether library provision has an impact on raising student attainment in schools.

There has been little research conducted in the UK which links primary school library provision and academic achievement. However, there has been considerable research in the USA, and more limited research from other countries, and all these studies are discussed in four sections. The first considers a group of quantitative studies analysing test scores against variables that potentially have an effect on student achievement in test scores. The second section considers a group of qualitative and quantitative evaluation studies conducted to establish whether the Library Power Program in the USA achieved its aim of revitalising elementary and middle school libraries. The third section considers studies related to reading literacy which have a bearing on library provision. The final section considers other pieces of research, including the UK study by Streatfield & Markless, which are relevant to the impact of library provision on primary academic achievement.

2.1.2 Discussion

Quantitative studies

The impact of the school library on academic achievement is well-documented in the USA. However much of the research was conducted prior to 1988 and other studies have been carried out as thesis work and these dissertations have not been analysed first hand. The Lance studies (Lance, et.al, 1993, 2000a,b,c) summarise these works in varying degrees of detail and Lance's literature reviews provide a useful breakdown of studies which have not been included in this review.

The Lance studies are part of a group of research projects using quantitative methodologies to examine student test scores against a variety of factors which intuition or experience suggest have potential to impact student academic achievement as expressed in test scores. Lance's own summary of the various studies under his model are presented in FAST FACT No. 164 (November 19, 1999). The discussion in this section will concentrate on the key findings and not the specific differences in methodology.

"The Impact of the School Library Media Centers on Academic Achievement" (Lance, et.al, 1993) was the first of these statistical surveys and established a model for other studies to adapt and refine. The report provides details on the analysis of school library data obtained from surveys and readily available school and community data. The report also explains how variables were selected or combined to provide predictors of test scores. Variables were combined when there were strong inter-relationships, for instance, the test scores consistently showed that the students with better reading scores were also better at using language and consequently only the reading scores were used to represent academic achievement. The test

scores were used for first, second, fourth and fifth grade students (English primary level) and seventh and eleventh graders (secondary level) and although the findings were broken down during the analysis into grade levels the overall findings were applicable to all levels.

This study aimed to establish:

- whether there was a relationship between school library expenditure and student performance in tests;
- assuming that relationship, what specific characteristics of school libraries are significant to the relationship;
- whether the instructional role of the librarian and the amount of collaboration with teaching colleagues help to predict test scores.

The key findings showed that:

- the schools with better funded libraries tend to have students gaining higher average reading test scores after socio-economic conditions have been taken into account;
- the size of the library staff and size and variety of the collection are significant characteristics of library provision which contribute to higher reading test scores;
- students tend to achieve higher test scores when the librarian spends more time in an instructional role, either by identifying materials for teacher use or collaborating in the planning of resource use.

However, it should be remembered that the findings of this study were based on a self-selected sample.

A similar study was conducted in South Texas (Hall-Ellis & Berry, 1995) during the 1991-1992 school year with similar results. The Lance model was replicated in Alaska where the school librarian was examined as an agent of academic achievement. The study "*Information Empowered*" (Lance, et.al, 2000b), was conducted during the 1997-8 school year in 211 Alaska public schools. The percentage of students in grades four, eight and eleven in these schools scoring 'below proficient', 'proficient' and 'above proficient' in the California Achievement Tests (CAT5) in reading, language arts and mathematics were analysed against socio-economic, school and library variables. This study considered a greater range of librarian activities in order to gain an insight into which activities make the difference to achievement and these included data about services, the collection, online access to information, annual expenditures, policies and management.

The following represents a summary of the key findings from the Alaska study:

- test scores are higher in schools where a librarian is present: the amount of time the librarian is on duty is reflected in the scores;
- higher levels of library staffing increase the operating hours, library staff activity and student usage and, as a consequence, increase test scores;
- higher levels of library staffing increase the time dedicated to information skills instruction, collaborative planning and in-service training of teachers;
- whatever the level of library staffing, the more time library staff spent on these activities, the higher the scores;
- the more often students receive information skills instruction with library staff input, the higher the test scores;
- test scores tend to be higher where there are co-operative relations with the public library, when the school library provides online access to information and when the library has a collection policy which includes evaluation of materials.

These key findings supported the findings from previous studies which indicate a positive relationship between the presence of a school librarian and student academic achievement which cannot be explained entirely by school size, teacher staffing levels and funding. *"Information Power"* (ALA, 1998) provided a framework in which the findings from the Alaska study were examined, and this sets out three overlapping roles of the school librarian as learning and teaching; information access and delivery; and administration.

One of the interesting aspects of the Alaska study from the English primary perspective is the positive impact of cooperation with the public library. The type of relationships considered during analysis were: electronic network links (such as a shared catalogue); book talks by public library staff at the school; homework alerts to the public library; referral of more complex reference questions from the school library; bulk loan of books and other resources from the public library; and summer reading programmes at the public library. Although research has been conducted in the UK on public library provision for children and there is anecdotal and user survey statements reflecting impact on learning (Heeks, 2000), few studies were discovered during the review reflecting the impact on academic achievement at primary level. Evidence that links school and public libraries has specific relevance because of the close relationship primary schools have with the central SLSs and in some cases public libraries.

The online access to information is of increasing relevance to primary schools in England and consideration will need to be given as to how this is administered given that the key findings from the US studies support the need for consideration of a qualified librarian to enhance access and staff development.

The creation of library policy documents in primary schools is encouraged by some SLSs but not necessarily implemented. Evidence from the Alaska research suggests the link between higher test scores and collection development policies. The implementation of a policy within the school has the advantage of bringing that policy to the attention of all staff and giving clearer focus to development and use.

In 2000, Lance reported a second study in the state of Colorado (Lance, et.al, 2000a) to establish whether the findings of the 1993 study could be replicated. In this study the limitations of a self-selecting sample of schools was avoided because by this time all the Colorado schools used the same standards-based test and this data was available for all fourth and seventh grade students. The data available on technology had also increased to allow for more in-depth analysis of this aspect of library provision. The study built upon previous findings to examine more closely the librarian and teacher collaboration in order to gain greater understanding about the activities which enhance test performance. The services provided by the librarian throughout the school as well as those within the confines of the library were examined and the study focused on the relationship between standard of service and student performance.

The key findings from this study showed that at both 4th and 7th grade levels the reading scores were higher where the library staffing was higher. A large amount of data was collected about the provision of library services but the most significant aspects for the elementary student performance were the total number of library staff hours per 100 students, the number of print volumes per student, periodical subscriptions per 100 students and the total library expenditure per student. An increase in test scores was also associated with the presence of networked computers linking the library resources, licensed databases and Internet access with classrooms to enable student use. Higher test scores were also linked to the amount of time a librarian spent identifying materials for teachers; teaching information literacy skills to students;

providing in-service training to teachers; and managing a computer network through which resources could be accessed beyond the library. It was shown that the more the librarian showed leadership involvement in school meetings and demonstrated professional activities, the higher the level of collaboration. Collaboration had a direct and positive impact on test scores.

The findings of the Pennsylvania study "*Measuring Up to Standards*" (Lance, et.al, 2000c) are not summarised according to grade level although each of the grades five, eight and eleven were treated separately during the analysis and therefore the conclusions refer to primary and secondary level students. The study concluded that the Pennsylvania System of School Assessment (PSSA) reading scores increase:

- with increases in school librarian staff hours and support staff hours;
- when computers are networked to enable access beyond the library to the state library catalogue, licensed databases and the Internet;
- when information literacy is part of an integrated approach with the school librarian dedicating time to cooperative teaching of information literacy with teachers, providing independent instruction, providing in-service training to teachers, serving on standards and curriculum committees and managing information technology.

Indirectly, school library staffing was found to effect academic achievement by increasing library expenditure, ensuring the collection is large and varied, providing increased information technology access and enabling a more integrated approach to information literacy.

Baughman & Eldringhoff (1999) presented symposium papers about a similar study conducted in Massachusetts in the spring of 1999, using the Massachusetts Comprehensive Assessment System (MCAS). The survey was sent to every public school in the state, however the percentage of returns was small (23%). The tone of the papers suggests that this symposium was intended to be used as a lever for increased funding in library provision and to demonstrate to the education profession the value of school library provision by equating the costings to the salary of one classroom teacher. Whatever the intentions of the report, the key findings do support the Lance studies and it is stated that: "*it is at the elementary level that the presence of a library media program demonstrates the strongest connections to increased MCAS scores*" (Baughman & Eldringhoff, 1999, p.34). The statistically significant variables for elementary schools were summarized in six general categories, and the paper presented these in terms of requirements for specific input to ensure the outcomes of high test scores. The summary indicated that effective library provision in elementary schools in Massachusetts was dependent on:

- hours of service;
- strong library collections;
- high library expenditures per pupil;
- library instruction and high student use;
- alignment of the library collection with the curriculum; and
- robust staffing, including full-time librarian and assistance.

The latest in this series of quantitative studies was carried out in Texas in 1999-2000 using the Texas Assessment of Academic Skills (TAAS). This research examined the academic achievement of students from schools in different combinations of educational level and the key findings are not specific to particular grade levels. The aim of the study was to:

- examine the school library resources, services and use in relation to the School Library Programs: Standards and Guidelines for Texas (1997);

- determine the impact of school libraries on student performance, measured as a percentage of students meeting minimum expectations in the reading portion of the TAAS;
- highlight library practices in the best performing schools.

The study concluded that the schools with librarians on average demonstrated ten percent more students reaching the minimum TAAS performance than those schools without librarians and this was at all educational levels. The study confirmed that the socio-economic variables have the most influence on test performance, however this influence increased with educational level. The study did show that library variables were significant in the analysis of test scores and these varied according to the educational level.

At the elementary level the important variables were found to be:

- the number of library volumes purchased in 1999-2000 per 100 students;
- library operation expenditures per student;
- library computers connected to a modem per 100 students; and
- library software packages per 100 students.

In middle/junior high schools (late primary and early secondary in the UK) the instructional input was shown to be significant and at high school level, the library staff, hours of operation, collection size and collaboration with teachers (planning and staff development) were found to be significant.

While the research does indicate a link between library collections and performance in reading tests in primary aged students (this will be returned to during the discussion on reading literacy studies), these studies also highlight the complexity of the issues surrounding school library provision and academic achievement. Quantitative studies do not establish the relationship between cause and effect and rely on the limitations of the variables and the correlation analysis. Qualitative studies are used to generate evidence of cause and effect.

Library Power studies

The DeWitt Wallace-Reader's Digest Fund Library Power Program began in New York, in 1988, as an attempt to revitalize elementary and middle school libraries, which had suffered from budget cuts resulting in poor quality collections and inadequate staffing. Library Power uses an intervention approach in which a substantial amount of private investment (approximately \$40 million) allowed the participating elementary schools to develop or upgrade school library provision. The grants required significant contributions from participating schools, in terms of staff and collections as well as a commitment to training, collaborative working and flexible scheduling.

A useful collection of articles and background material to this major investment programme is included in the DeWitt Wallace website. However, for the purpose of this review, the most important part of the programme was the evaluation conducted by the University of Wisconsin, between 1994 and 1998 (Zweizig & Hopkins, 1999a). The evaluation did not specifically set out to assess the impact of the programme on learning but to evaluate whether participating school libraries improved; whether they were more efficient in terms of outputs; and whether they played a more central role in teaching and learning, i.e. provided greater access and learning opportunities. The evaluation focused on the Information Power (AASL & AECT, 1988) elements contributing to teaching and learning, i.e. curriculum matched collections; flexible scheduling; sufficient staffing levels to maintain the administration of the library; ensuring adequate accommodation for a variety of needs and collaboration in purchase and planning. A

flexible approach was taken for the evaluation to allow for local variations in programme conditions. In addition a series of annual surveys was designed to elicit uniform information about each Library Power site and this was supplemented with records of collection evaluation and collaborative planning collected from the schools. Extensive case studies provide observational evidence from a number of sites and the evidence from all these sources was used in drawing conclusions about the programme.

Evidence from the Library Power evaluation (Zweizig & Hopkins, 1999a) indicated that strengthening the library collections in terms of quantity and quality had a number of benefits. Teachers were encouraged to become actively involved in the selection of materials, supported by professional development in collection mapping (a process developed by Loertscher, 1996) and this resulted in increased collaboration and use of the collection within curriculum teaching. The evaluation reports on the shift in emphasis towards flexible scheduling at the Library Power sites. This was not necessarily a smooth transition due to the conflicting interests of different classes, and the need to support regular and spontaneous visits. Open access and flexible scheduling is discussed in a number of documents, however it is only an indirect indicator of academic achievement according to the previously reported Lance studies (Lance, et.al, 1993, 2000a,b,c).

The increase in collaborative activities between teachers and librarians has already been mentioned as an outcome of the Library Power intervention and this is a significant factor in the findings of the quantitative studies in determining higher test scores. The evaluation attempted to differentiate between different levels of collaboration: i.e. low level working in parallel to achieve a goal, or higher level of interactive and shared collaborative ventures. The evidence from the collaborative logs suggested that the former was the more common form of collaboration. However, other studies (Webb & Doll, 1999) suggest that it is the more interactive ventures that determine the academic achievement. There was evidence from the evaluation that Library Power had stimulated changes in instruction, activities and learning goals to support increased literacy skills required for resource-based learning. However it was found that sustaining these changes was not easy (Oberg, 1999; Kuhlthau, 1999).

Professional development was found to be one of the most significant interventions of the Library Power Program and the types of approaches used included opportunities to build knowledge and skills and to become involved in roles beyond the school.

The Library Power evaluation (Zweizig & Hopkins, 1999a) and the articles relating to it (Hopkins & Zweizig, 1999a, 1999b; Tallman & Tastad, 1998; Tastad & Tallman, 1997; Zweizig & Hopkins, 1999b) are significant because the improvements reported illustrate and support the key findings of the quantitative studies discussed in the previous section. The evaluation is also important in demonstrating a methodology for reform and evaluation that could be used alongside a statistical study to provide longitudinal evidence of impact through reform.

Articles written about Library Power provide a wealth of information about the practical issues addressed in implementing the programme and how this impacted on the school, the school library and the professionals involved. However few of these reports specifically examine aspects of academic achievement. This may reflect a development process that needs to be established before aspects of learning can be addressed, i.e. an efficient and effective service needs to be in place before learning can be measured in any consistent manner. Although they do not specifically examine impact on academic achievement some of these documents are worth detailed discussion, including Oberg (1999), Kuhlthau (1999) and Callison (1999).

Oberg (1999) documents changes in learning and attitudes at a case study school. The librarian and principal of the school concerned used the Tennessee Comprehensive Assessment Program (TCAP) in conjunction with library data to provide evidence to teachers that library use was related to student learning. The principal played a vital role by ensuring that Library Power was integrated into the activities of all teachers. The principal was asked to act as mentor to other principals attempting similar projects following the successful improvement of student learning through Library Power and the school Library Power team provided staff development for other schools. The librarian compiled library use statistics for each classroom and compared these data with the average TCAP scores for each classroom. A key finding showed that reading and reference scores began to climb as library use increased. The report also mentions a noticeable shift in the nature of students' selection of material for personal reading from easy fiction to non-fiction and a change in teachers' practice and beliefs about the library. The younger students benefited more from the resource-based learning and use of the library than older students whose teachers were less likely to plan with the librarian because students were expected to work independently. The article reports that the teachers indicated they enjoyed collaboration with the librarian and that it enhanced their teaching. Library Power in this school was considered a catalyst for change and a support in implementing other initiatives, suggesting the will for reform and improvement needs to come from beyond the library.

Kuhlthau (1999), when reporting on the Library Power evaluation, was conscious that librarians experienced initial difficulties defining learning in relation to the library. However, she found that librarians' understanding and awareness of learning increased during the programme and higher level indicators of learning were increasingly reported in the Library Power Annual Survey as the years progressed. Kuhlthau coded the librarians' responses to the questions: "How did you know something new was learned? What stands out in your mind that made it a good learning experience?" under five levels:

- input - when emphasis was on what the librarian did, not on the students' learning;
- output - when a quantitative measure of student use was emphasised (i.e. more visits)
- attitude - when the description included a change in student attitude (i.e. increased enthusiasm);
- skills - when resource location skills or use of technology was reported;
- utilization - when the emphasis was on content learning. (Kuhlthau, 1999, p83)

Kuhlthau also identified ten indicators of learning ranging from intuitive observation to documentable evidence:

- independence in applying skills;
- comes back, is reluctant to leave or wants to do activity again;
- comments to librarian;
- expression on face;
- helps and teaches other students;
- shares ideas with others;
- questions asked and/or connections made;
- final products;
- recalls at a later time (content);
- test results.

These indicators move away from the traditional emphasis on library and information skills to other aspects of learning and are similar to indicators identified by Williams and Wavell (2001) in research examining the impact of the school library on learning in secondary school students in the UK. The research by Kuhlthau and Williams & Wavell suggests that this is an area in need

of further development. This article by Kuhlthau provides a significant contribution in how librarians and teachers can begin the process of looking at learning in relation to the library and will be referred to again when examining the role of the librarian in providing learning opportunities for students. Kuhlthau concludes that the Library Power initiative had influenced opportunities for student learning. However the extent of the learning varied according to the philosophy, commitment and support within individual schools and how this aligned with those of Library Power.

A significant aspect of an evaluation of the Lincoln, Nebraska's involvement in Library Power (Callison, 1999) was the development and adoption of a locally devised integrated approach to information literacy. The locally produced "Guide to Integrated Information Literacy Skills" was adopted and accepted during staff development sessions by a number of state schools. The application of the principles in the guide demonstrated *"a movement of the library initiative beyond the one goal of renewal of the book collection to the larger goal of improving the way reading and thinking are best taught."*(p.58). The district participants expressed the view that *"true impact on student achievement takes time and commitment to demonstrate"* and the reputation of education in the district was already good with higher than national average test scores (SAT and ACT) and 80% students progressing to further or higher education. The evaluation suggested that Library Power had encouraged resource application in teaching which led to greater understanding and delivery of the skills required for critical analysis and effective problem solving. This district used an annual telephone survey to obtain parental views of education, including curriculum teaching and learning and this provided useful external evidence for the Library Power evaluation. Responses to a question on how well schools taught students to use the library showed that this had remained steady in the years preceding the Library Power intervention. The survey conducted 18 months into the project showed an increase in satisfaction concerning library provision when compared to other curriculum areas.

The evaluation suggests that schools that have fully implemented the Library Power programme recognise progress made in terms of more up-to-date facilities, resources, increased use and collaboration. Many are considered to be vital centres for teaching and learning activities.

All this evidence assumes the existence of a primary school library, however one of the major problems of translating these studies into the English primary system is the lack of consistent library provision in primary schools. Primary schools in England reflect a wide variety of library provision: some have central libraries with a qualified or unqualified librarian, others rely on parental volunteer help, others have developed classroom libraries and the majority use the services of the local SLSs to varying degrees. Although the guidelines for the primary school library (The Library Association, 2000) advocate the need for a clear library policy and goals, anecdotal evidence would suggest that this practice is not widespread.

Studies on reading literacy

Reading literacy is of particular interest to the education profession and numerous studies have been conducted in a variety of aspects of the subject. However for this review, documents have been limited to research in which the role of library provision has been discussed. The first Colorado study (Lance et al, 1993) coincided with a comprehensive literature review by Krashen (1993) which examined research studies exploring the impact of free voluntary reading in school. The study stressed the importance of learning to read by reading and that voluntary reading is the best predictor of comprehension, vocabulary growth, spelling ability, grammatical usage and writing style. Krashen pointed out that the amount of reading is critical; that a print-rich environment encourages more reading; the larger the school and public library collections the more young people read; that reading aloud helps; that sustained silent reading

programmes help; encouraging young people to read helps; that reading is a reward in itself (the more one reads, the more one wants to read); and that modelling by parents, teachers and friends help. Using the evidence from examined studies and from his own research, Krashen concluded that children who read for pleasure acquire the majority of the written language skills involuntarily to an acceptable level. He also reported that reading enabled second language learners to develop their language skills to more demanding levels. Krashen's research maintained that in order to enable free voluntary reading children needed to be provided with a print-rich environment both inside and outside school and this is where library provision is vital. However, in order for that library provision to be effective there needs to be greater understanding by all education professionals, including librarians and parents, as to how to encourage effective use of reading material. Krashen discusses the need for a physical and emotional atmosphere for reading that reduces anxiety (including comfortable seating), for encouragement in selection and understanding and other reading related activities to stimulate and maintain interest. None of this is surprising or new, however the pressures from other curriculum activities have on occasions forced free voluntary reading out of favour or priority. This research also indicated the importance of accessible and attractive collections of reading material, which was not always available either because of financial constraints or location of collections.

Reading literacy is particularly significant in the primary years and therefore it is important to ensure that the provision of reading material is sufficient to encourage a high level of reading activity. This research is increasingly important when considered alongside the evidence from previously reported studies in which the quality and quantity of the collections were identified as significant factors in schools where students achieve higher test scores. The Library Power studies help to explain the relationship between frequent library use and reading comprehension, although there are still important issues to be resolved in considering why implementing knowledge of reading development is not working. Krashen also admits that full literacy is not necessarily developed through reading alone.

An international literacy study, sponsored by the International Association for the Evaluation of Educational Achievement (IEA), was conducted by Elley (1992, 1994) in order to determine the average level of reading literacy of nine- and fourteen-year-olds in thirty-two countries and to identify which student, teacher and school factors were related to reading development. The tests administered to the students focused on commonly found material and included narrative, expository and document texts. Questionnaires were used to elicit information from students about home environment, reading habits, interests and homework. The questionnaire to teachers inquired about their educational background, teaching activities, reading instruction and about library provision. The third questionnaire was directed at principals and asked about their training and role, community and school resources (including libraries). The UK was not included in this study and the major focus of this study is reading literacy and not the library *per se*.

As part of the Elley international studies, Froese (1997) used the IEA reading literacy study figures to explore reading literacy in the international context with particular attention to school and classroom libraries as well as classroom teachers' practices in relation to library use. The relative scores in reading achievement show a positive relationship between the number of library resources provided and student literacy score. The study also considered a number of other literacy factors that impact on the reading levels including the frequency with which teachers read children's books themselves and read aloud to grade 3 and 4 students. The article also discusses whether teachers instruct students on library skills and how to select reading material: the latter activity was not rated highly by teachers as an instructional aid.

Detailed analysis of reading achievement and library variables was not possible for all the participating countries so Froese considered the data relating to Canada where the borrowing of books from school libraries showed a strong relationship with reading scores. The number of books in the home estimated by the students also indicated that the opportunity to access reading material is important to reading achievement. However, Froese concludes that the relationships are complex.

Novljan (1998) discusses the Slovenian experience of this international study. This Slovenia study considered 9-year-old students to be important subjects for examination because they had recent experience of the school library while learning to read. Intuitively it was felt that experience of the library at elementary level was a motivator for later use; and although they had mastered the skill of reading a variety of texts the factors connected to initial learning to read could still be identified. An additional question was included in the international questionnaire asking who ran the school library, a librarian, teacher or other. Students in schools with a trained librarian scored higher points than those where a teacher was in charge of the library. When the scores were analysed against the different environmental settings of the schools, it was found that the presence of a librarian made a significant contribution to the test scores in large towns but was less significant in rural or small town settings. Reading development is a complex process and a number of other factors will inevitably be significant. However, the study did conclude that: *“In Slovenia better reading test results were closely related to the existence of large school libraries (approximately 7,000 books), large classroom libraries (approximately 60 books) and regular effective lending of books.”*

Martin & Morgan (1994) contribute to the evidence within the IEA study and discuss reading literacy in Irish schools. They acknowledge the complexity of the factors associated with reading development (1994, p.90), however they also state:

“The most consistent finding in the present survey relates to the association between access to books and children’s reading achievement. Whether considered in terms of comparisons between countries or between schools within countries, the effects are strong and significant. It is also worth noting that the pattern is similar for both 9- and 14-year olds. Size of library, number of books, and access to other resources related to reading are all associated with reading achievement.” (p.95)

Martin and Morgan go on to suggest that, although the association does not establish a causal connection, there is enough evidence to support further research in the form of an experimental pilot study. Other factors highlighted in the Irish study (and other studies in the international research) included gender differences, the range of literacy skills, homework and voluntary leisure reading, access to books, teachers’ education and professional development, school management, class size and testing mechanisms. These aspects threw up further avenues for research, however they also have a bearing on library provision. The discussion of gender differences considered role models and language development. Anecdotal evidence suggests that providing male reading role models and ensuring male teenage reading material is one goal for secondary school librarians. Another avenue of research in the primary sector might be the type of reading material available to satisfy differing gender preferences at an early age, and the role the library collection might have in addressing any bias or deficiency.

The Martin & Morgan (1994) suggested that the educational system favoured lower-order literacy skills and that it is the higher-order skills that enhance achievement. Studies by Kuhlthau (1999), Moore (2000) and Williams & Wavell (2001) suggest that the school library has a significant role to play in the development of information handling skills and an understanding

and awareness of the learning associated with information literacy enhances the opportunities librarians can provide for higher-order learning.

The Irish study also suggested that there was concern over the professional development of teachers in literacy and that Irish primary teachers were among the lowest in the international survey of attendance at in-service and reading professional material. There did appear to be a relationship between teachers' own reading and their style of teaching reading and this, taken with the importance of in-service and the librarians' role in supporting professional development of teachers in the American studies, suggests that this is a significant area for further research and development. A small piece of research in Scotland indicated that teachers recognised the need for training to support their use and promotion of reading material to primary students (Reid, 1997). It is also important to remember the need for professional development of school (and other librarians) in literacy and the Library Power intervention reported a strong case for joint training to enable greater understanding of the two professional roles.

Again Martin and Morgan endorse the importance of the school principal in establishing effective practices and staff inclusion in achieving goals, and the significance of parental and community links. They acknowledge the difficulties of establishing the impact of class sizes on achievement and the type of testing and assessment carried out in order to enhance academic achievement. These aspects have all been considered in the studies discussed previously in relation to the school library and all these studies reinforce the need to include library provision as an integral part of the learning process and not treat it as a separate entity which is common practice in the UK.

The role of reading material in the home environment has been reported as significant in a number of studies (Elley, 1992, 1994; Krashen, 1993) and these researchers also considered the role of television viewing as a competing activity to reading. No conclusive evidence has been put forward and this debate continues, however the access to reading material remains fundamental according to the research. Machet & Olen (1997) researching the literacy environment of primary students in South Africa did not establish a significant link between high and low scoring students and a number of home background variables. Although it was not the focus of the study, the researchers suggested it was likely students started school with few literacy skills due to the generally unfavourable literacy backgrounds and that the presence of a school library was important to help establish a reading culture.

A research project currently in progress by Jonathan Solity at Warwick University, suggests that children make faster progress in learning to read when they are allowed to make their own selection from proper books, magazines and comics. This would also suggest a case for quality book provision either supplied by some form of library service or through the school resource budget. A case study in the USA (Bishop & Blazek, 1994) suggested that teachers relied upon the librarian's bibliographic advice and guidance on the selection of resources for a literature-based reading programme. The report argued that the librarian should be involved in the process of language development programmes from the outset, thus ensuring that the roles stipulated in Information Power (AASL & AECT, 1998) can be effectively integrated into the overall planning of the programme.

The Elley and Krashen studies suggest that the use of free voluntary reading and access to quality reading material have a beneficial influence on second language development. This has implications for the reading literacy skills of ethnic students in primary schools and, although not within the scope for this review, for students studying a second language as part of the

curriculum. Library provision would appear to have an important role to support this area of learning.

The National Literacy Strategy (NLS) is beginning to herald a number of studies and evaluations that are outside the scope of this review. However, there are questions that need to be answered in relation to the NLS and library provision. Has the NLS led to an increase in reading resources and materials in schools that will enhance the school library collections? Has an increase in the need for quality material to support the NLS raised issues about the type of staffing required to administer and deliver such resources? Has the NLS raised teacher awareness of the issues of reading and information literacy and whether or how professional librarians have a role in supporting this?

Additional studies

Investing in Children (Library and Information Services Council, 1995) gives UK support for the findings of research from abroad. It provides a summary of the evidence and discussion of the impact of reading on academic achievement and mentions HM Inspectors reports which suggest that *“where library provision is poor, pupils’ abilities in information handling and research and study skills are correspondingly under-developed.”*(p.16).

Farmer (2001) reports on a piece of action research in a Californian high (secondary) school where the librarian (the author) was incorporated into a five-year funded project to encourage improved outcomes in reading, communication and mathematics. The librarian supported the teachers in their delivery of information literacy programmes by researching rubrics and standards, writing guidelines for staff and students and conducting staff development workshops. An indirect result of the study identified students from feeder (primary) schools with qualified librarians as performing better in their first year than those without this input. Anecdotal evidence of librarians being aware of the increased information handling skills by students from primaries with librarians or library orientated teachers was forthcoming during a research project conducted in Scottish secondary schools examining the impact of the school library on learning (Williams & Wavell, 2001).

Streatfield and Markless (1994) examined the contribution of the library to teaching and learning in three primary (and three secondary) schools. This research project used a case study approach to examine qualitative data as evidence of learning.

The aims of the Streatfield and Markless study were:

- to identify the main elements of school library contribution to learning and development of pupils and staff;
- to investigate different models of school library or other forms of resource provision, in order to determine which combinations of resources, staffing and activities are effective in supporting learning;
- to prepare performance indicators as a help in assessing the effectiveness of school libraries;
- to organise training workshops to encourage the adoption of performance indicators;
- to suggest strategies for adapting the performance indicators to meet the requirements of particular schools and LEAs;
- to identify and describe examples of good practice;
- to make suggestions to support the improvement and future development of school libraries.

While the evidence on learning was inconclusive, the research highlighted the problem within primary schools of teachers being unable to supervise students in the library and in the classroom simultaneously. The importance of a positive attitude of teachers, the “teacher-ownership” of resources, and time to plan and think through library use was also highlighted. Where libraries were used in this study, students were encouraged to find resources for themselves, as they were needed and with few specific checks on the selection process. The observation of activity within the primary library suggested that the product of the information search would be assessed rather than the process.

Streatfield and Markless identified the different view primary and secondary school teachers have of the school library. The primary teachers took a broad view of use of resources and distinguished between collection of books in classrooms and centrally held collections, while secondary teachers had a clear idea of the library as a specific entity but less idea of how it might help in teaching and learning. A similar view was formed from unpublished follow-up discussions with primary headteachers and secondary school librarians to the Williams & Wavell project (2001). The primary heads understood the need for the library in all teaching aspects and valued their collections, attempted to organise and consider the policy and planning in a methodical manner and as part of the whole teaching and learning philosophy of the school. The secondary librarians were more traditional in their approach to resources and planning and found it difficult to understand the learning aspects.

The effective school library project (Streatfield & Markless, 1994) recognised a number of issues which relate to the effectiveness of library provision. These include the importance of the head in promoting the school library and this is an issue that comes up in nearly all the research on libraries and learning. The support of the SLSs was also recognised despite the fact that case study schools provided their own resources for teaching and learning and only arranged for visits from the SLS when necessary. The report discussed the different approaches teachers adopted for library use and noted that this greatly influenced pupil use. Evidence from this study suggested that it is easier for primary schools to establish a common understanding of learning and library use than in secondary schools. Streatfield and Markless reported that the primary case schools were using some form of indicators and targets for the library, some related to SATs and some to encouraging reading and awareness of books with parental help and guidelines. However the study did not provide clear evidence of learning associated with the library provision other than that the majority teachers interviewed felt the library made a significant difference.

There was evidence in the Streatfield and Markless report that those pupils from primaries with librarians or good grounding in library practice are more aware of resources when they enter secondary school. This, and the fact that some secondary students encounter problems with using the library and resources (Williams & Wavell, 2001), suggest the need for increased emphasis on the planning and involvement of library resources in primary education and greater continuity of information handling skills between the two sectors.

Although the review did not identify research into student librarians or the use of computerised catalogue systems in primary schools, it is suggested that basic literacy, numeracy and ICT skills of primary aged students could benefit from involvement in library administration.

2.1.3 Key points

The discussion has centred on important research originating from different perspectives: the education profession examining reading literacy and the library profession examining school

libraries. These studies draw similar conclusions about the positive role reading material and libraries can play in promoting academic achievement, particularly in reading literacy.

The Library Power intervention was co-ordinated at state education level and provides important lessons for authority and school level support of primary library provision. The initiative centred on quality collections and professional development to encourage collaborative use of those collections. On its own the Library Power initiative did not bring about major changes in teaching and was most successful in schools where the teaching philosophy and leadership was aligned to that of Library Power (Zweizig & Hopkins, 1999a).

There is anecdotal evidence that primary students who have had librarian input are more able in information handling when they transfer to secondary school.

A pattern emerging from these studies is the importance of using standards or guidelines upon which to examine service provision and base research criteria. The US quantitative studies and the qualitative studies examining the impact of Library Power were based on Information Power (AASL & AECT, 1998) or the Texas School Library Program standards and guidelines (Texas State Library & Archives Commission, 1997).

There are a number of issues highlighted in the preceding discussion which indicate particular challenges and issues for translating and implementing the findings in relation to the English primary school setting:

- variation in library provision, either locally within the school or as a central service;
- variation in staffing of primary school libraries, support from SLS, and training for teachers and librarians;
- the need for collaboration between the teaching and library professions;
- standards and how they can be used to enhance the service and teaching and learning.

This section of the review on the impact of school libraries on academic attainment examines and answers the following specific questions outlined by the Task Group:

What is the link between school libraries and achievement/attainment in schools?

What impact do school libraries have on raising pupils' attainment in schools?

A link between school libraries and achievement and attainment can be made at primary level and in certain circumstances this can be demonstrated through formal test results and more informal examination of the quality of students' work.

The existing research, much of it from the USA, concentrates on the attainment of reading and information literacy in primary and lower secondary level students. It points to the fact that the school library can have a positive impact on attainment as measured by a variety of standard tests of attainment in reading proficiency. The cause and effect of school library provision is not fully understood from current research. The key factors in achieving a positive impact relate to: access to quantity and quality reading material; library staffing levels; training of professionals in literacy and information skills; the relationship between literacy and information skills and library provision; and collaboration between librarian and teacher in planned use of resources and instructional design.

The National Literacy Strategy should provide a useful base of data for research and ongoing evaluation in English schools as well as providing opportunities to explore further the relationship between the library and learning.

2.2 Impact on Broader Aspects of Learning

2.2.1 Introduction

This section considers the impact of the school library on broader aspects of learning, such as attitude to learning, personal confidence, social development, enrichment of the curriculum and recreational or non-directed learning.

At the secondary school level this area of learning tends to be the focus of small-scale action research. However, the primary review of literature identified little research into the broader aspects of learning at primary level in relation to library provision. This reflects a general lack of research in the UK on library provision in primary schools and may also reflect the type of teaching, learning and curriculum at this educational level; the emphasis on literacy and numeracy skills; and more intrinsic motivation to learning in younger children.

2.2.2 Discussion

A project conducted by Birmingham SLS examined the impact on reading attitudes and the possibility of student achievement arising from 'flooding' a group of children with a range of new and exciting texts for voluntary reading (Rogers & Needham, 1999). A variety of techniques developed by the individual schools were used to gather data from students, teachers and parents, for instance surveys, examination of reading test scores and activities associated with reading undertaken by participating students. A number of benefits were reported, using a variety of indicators, which reflected a change in attitude to reading and improvements in reading development across a range of ages and reading abilities. The success of the project led the SLS to develop a service available to schools along similar lines. This type of project conducted by SLSs is not necessarily widely reported and valuable information on such action research may be lost.

The role of the library and librarian in promoting positive self-concepts, broader aspects of learning attitudes, has been explored by Hopkins (1989) in three elementary school libraries in the USA, and in Australia, Murray use Hopkins work in a study on students with disabilities in 14 primary and secondary schools (Murray, 2000). The positive self-concepts are described as: opportunities for collaboration or teamwork with other students; independence; success; positive and welcoming learning environment; challenge in learning situations and a feeling of personal value or acceptance. The research findings concluded that school libraries and the librarian can make a contribution in these six factors although Murray reported the contribution in only four factors: collaboration; independence; perceptions of value and positive environment. This report continued to suggest that librarians with good managerial and communications skills were more able to deliver successful services to students with disabilities.

There is anecdotal evidence that students involved in the running and organisation of the school library and a computerised catalogue benefit from the experience in terms of independence and self-esteem, however the review established no research reports on the subject.

It is likely that students benefit from author visits (Charlton, 1995) and other events that are identified in secondary schools as school library activities, however, again the review established no research reports on the subject.

2.2.3 Key Points

The previous report examining the link between school library provision and the broader aspects of learning at secondary level (Williams, Wavell & Coles, 2001) established an important, if poorly researched, link between school libraries and enrichment of the learning experience within the curriculum. There is no reason to suggest this would not be the case in primary school libraries or that the services provided by the SLSs would not provide opportunities for broader aspects of learning. However, research covering this area and focused on the primary educational level is severely limited.

This section of the review on the impact of school libraries on broader issues of learning, examines and answers the following specific questions outlined by the Task Group:

*Can a link be made between school libraries and enrichment of the curriculum?
What impact do school libraries have on pupils' attitudes to learning (or confidence in learning)?*

What research has been previously done on school libraries' impact on whole school provision? (i.e. impact of life of the school as a whole including curricular, inter-curricular and extra-curricular activities)

There are a few reports which mention some evidence of the library or librarian's contribution to student attitudes to learning or self-esteem. The review does suggest that where there is intervention by the librarian or teacher to enhance the effectiveness of the library experience, the implementation of the intervention has the effect of increasing knowledge, understanding and awareness of the issues involved which impacts on the quality of the resources or teaching and indirectly increases student stimulation and motivation. However, the review has not identified research in which the major focus has contributed consistent evidence to support the fact that the school library impacts on student attitudes to learning, particularly at the primary level.

The review has not identified any research where the major focus is on school libraries' impact on whole school provision. However, a minor focus within larger studies has demonstrated that the school library has a role within whole school efforts to encourage or improve cross-curricular or extra-curricular activities. It is important for the school library's potential contribution to be recognised both within the school and by Government when initiatives and training are introduced.

A number of impact evaluations have considered the contribution public library services have on promoting reading or their contribution to study support in the form of homework clubs or additional resource provision. These studies have tended to concentrate on secondary students and the review did not identify references that include primary students.

2.3 Service Provision

2.3.1 Introduction

This section considers the impact of service provision on student learning. Service provision has been taken to mean the different types of services provided by the various models of school library, including the on-site school library managed by a librarian; the collection managed by a

teacher and/or volunteers; the on-site library with or without the support of a Schools Library Service.

The review identified research in relation to library provision within a service model, such as collections, library instruction and collaborative planning. However, there is a gap in the research on how the different models of library service impact on learning.

2.3.2 Discussion

The level of library services to schools and children in the UK varies between local authorities (Creaser, 2000) and there is little data available specifically for the primary sector. It has not been possible to establish an overall picture of the level of library provision within primary schools, however, SLSs play a significant role in supporting library provision in primary schools (Streatfield & Markless, 1994). Despite some variation in services offered by SLSs, the data suggest they do all offer a service to the primary sector. The take-up rate of full services is high in the primary sector and all but one SLS have some method of evaluating user satisfaction (Creaser, 2000), however few are in a position to evaluate effectiveness in terms of government or school agendas (Streatfield & Markless, 2000; Markless & Streatfield, 2000c). Library services in general, and SLSs in particular, are governed by a variety of different corporate frameworks, however the most common framework is the SLS managed by the public library service but funded by education (Tilke, 1997). The degree of co-operation and collaboration between these inter-related services is also variable.

Additional efforts were made to establish documented research into the impact of SLSs on learning and achievement on primary students. Studies were located describing the role and use of SLSs (Heeks & Kinnell, 1992; Streatfield & Davies, 1995; Tilke, 1997), however there is a gap in the research examining the impact of this service on student learning.

In a similar way the role and state of libraries within primary schools have been discussed (Morrison & Scott, 1994) and several standards and guidelines (Library & Information Services Council, England, 1995; COSLA, 1999; and The Library Association, 2000) have been produced to enable schools to develop a quality library which is relevant to the curriculum and provides opportunities for student use and learning. However, research into the impact of library provision on student learning in the UK is limited.

The training pack published by Buckinghamshire County Council Library Service (Ryan, 1995a,b) was based upon a project which introduced Chartered Librarians to three primary schools in the county. However, the pack does not include an evaluation of the project in terms of specific outcomes achieved during the project or evidence of effectiveness within the schools. Morrison and Scott (1994) recognise that providing all "*primary schools with sufficient human and physical resources to fulfil the educational needs of children*"(p.142) was an ideal unlikely to be realised and a compromise is required. The COSLA (1999) Standards for School Library Resource Services in Scotland put forward the option of access to professional staff through the SLS or a cluster arrangement with secondary school librarians. The standards also recommend closer links between the SLS and the education department and better coverage of school librarianship in Higher Education Institutions offering degrees in librarianship. However, this presupposes the existence of a local SLS: the number of UK local authorities with a SLS has declined in the past ten years (Creaser, 2001) with 23 authorities without provision (Streatfield & Markless, 2000).

There is research from abroad considering the type of library service delivery and how this impacts on student achievement. Information Power (AASL, 1988, 1998) indicates the importance of flexible scheduling, i.e. whether the library operates a system allowing student access on a need basis, as opposed to fixed scheduling, in establishing a culture for using resources as the need arises. The Library Power programme required participating schools to adopt flexible scheduling for the library and this aspect of the programme is discussed by Hopkins and Zweizig (1999a, b) and Shannon (1996). It was reported that some schools found the implementation of flexible scheduling a struggle. An interesting study by McGregor (1999) examines six elementary schools where flexible scheduling has been successfully implemented without the financial incentive of the Library Power. Although McGregor warns against generalising from the small scale research, the findings suggest that one reason for the success is that it developed naturally from the needs of the schools and is used as a tool rather than being an imposed requirement that was not fully understood by some participating Library Power teachers. The ability for teachers and students to use resources as the need arises and therefore integrate information use and the enjoyment of reading within the overall curriculum is an important aspect of library and resource provision. This study did not set out to consider the impact of flexible scheduling on learning but McGregor indicates that anecdotal evidence was forthcoming on learning outcomes. However, these were not specified in the one report published to date in this project (McGregor, 1999), which preceded completion of the study. Another study not related to Library Power explored curriculum involvement and skills integration in elementary schools in Iowa (van Deusen, 1993). The author acknowledges the limitations of lack of control of the variables in this study. The findings indicate that librarians involved in flexible scheduling are more likely to evaluate instructional units and that the combination of flexible scheduling and team planning resulted in more curriculum involvement for librarians. However there was no statistical significance between scheduling pattern or planning style and information skills integration.

Callison's article on the Site-Level Case Study of Lincoln, Nebraska (1999) evaluates the behind the scenes support at district level and provides useful information on the setting up of the Library Power intervention through a district level co-ordinator. The continuing professional development programme provided by Lincoln district addressed broad themes of "*Implementation Strategies, Inter-disciplinary Support, Collaborative Planning, Community Connections, and Library Facilities*" with numerous specific topics to meet local school needs. Loertscher's Taxonomy (1988) was used as baseline measures for the range of involvement of the librarian in the information teaching process. The amount of collaboration between librarian and teacher was reported to increase as the duration of the intervention progressed. Community involvement in the project was report to have been a difficult area to implement but one of the most successful in terms of community participation. The project enabled the key co-ordinating participants to have the confidence to approach practices of teacher librarian collaboration in new ways and consider the importance of funding through outside sponsorship.

Hopkins (1999) discusses the importance of the library collection in providing teaching and learning opportunities in the primary school library and how the Library Power Initiative contributed to the goal of providing resources relevant to the current curriculum. An important aspect is the need for sustained funding to enable continuous upgrading and enable the development of collections as use of the service increases and priorities in resources change to match school and wider political policies, such as cultural diversity and language development. It was also noted that some school libraries included collections to help parents with their educational role. One of the most significant aspects of the Library Power Intervention was the professional development associated with collection mapping which indirectly led to increased collaboration and use. The integration of the information processing skills was reported to be a

result of Library Power in Conerly's (1995) article. However, all these impacts of the Library Power initiative are aspects of school library use that are still struggling to gain widespread recognition and adoption.

The studies above indicate that Library Power enabled more widespread flexible scheduling practices across the district schools and provided ongoing support at various levels (Callison, 1999). The role of the librarian was strengthened, there was an increase in frequency and degree of collaboration both within schools and at administration and community levels. New collections stimulated new collaborations and this was also a point raised in the focus groups of the Scottish impact study (Williams & Wavell, 2001) when teachers reflected on the recent book grants awarded from central government in 1999. Lincoln schools report an increase in circulation, seen as an indicator of efficient service: "*The best sign of a strong library media program [service not instruction] is high student use*" (Callison, 1999, p50); an increase in thematic instruction and team teaching involving the librarian.

Another study conducted in the USA (Loertscher, Bowie & Ho, 1987) examined the library provision in elementary schools that had been identified in previous research as exemplary, in order to establish what library services were provided and whether and/or how this contributed to their status. The report did suggest some correlation between the levels of professional staffing and high level services, for instance support for classroom collections; in-service training for teachers and providing reading activities. Across the group as a whole however the levels of staffing varied considerably (less than half had full-time professional staff and clerical assistance, a fifth had only part-time professional help and 12% had not professional library staff) indicating that it is possible to be an exemplary school without having an exemplary library. Most of these schools were classified as "*mostly white students from middle- to upper-middle-class homes*" (p148); indicating other factors may be significant in supporting student learning.

In English primary schools classroom library collections are common and enable teachers to determine their own resources and the introduction of a central library within a school can cause management and teaching challenges. Yet use of the SLS requires a degree of planning by the teacher to ensure the materials are requested in advance. In addition, unless the service has exceptional partnership with the education department and individual schools, the teacher has little direct control over the purchase of resources. Evidence from the secondary literature review would suggest that teachers in secondary schools do not necessarily have input into collection development, however it does appear to be appreciated when they do. The Library Power evaluation indicates that this is one of the most important aspects of teacher/librarian collaboration and resulted in greater and more appropriate use of resources by teachers and students and thus greater learning opportunities.

An interesting article by Knuth (1995) compares the development of school libraries in the UK and USA and identifies five factors which have had a positive or negative impact on school library provision: standards, staffing and certification, government support, rationale and professionalisation. Knuth suggests that because standards in the USA are consistently published by one organisation this leads to greater consistency than exists in UK. However, although Information Power is widely recognised and adopted in USA, a number of individual states do have their own versions. While consistency may help to focus attention, the issue in the UK may be more related to a lack of understanding by professionals of how standards can aid efficient service delivery to enable effective learning outcomes. The introduction of standards and training to support them could play an integral part in developing understanding. Government support for school library provision is evident in their response to Empowering the

Learning Community (LIC, 2000), however consistent and concerted action has not been so apparent and funding even less so. An overview of American standards and guidelines for primary level school libraries and how these relate to research studies has been provided by Pojman (2000) adding weight to the argument for using standards to improve provision. Thus, despite all the reported research there are still significant challenges associated with the integration of library provision for effective learning.

2.3.3 Key Points

This section considers how the various models of school library service impact on student learning and also how the library provision within that service impacts on learning. The evidence from all the research suggests that impact on learning requires a particular type of library service, i.e. one that involves collaboration with teaching staff. The research from abroad assumes the teaching aspect of the librarian's role. Implicit in many of the studies from the USA is the existence of a strong centralised support system and, although it is not entirely clear whether this is part of the role of education departments or a separate library department, there do appear to be close links between the two services. Professionals in school settings would appear to benefit from clear, appropriate and timely staff training which can be provided by effective SLSs. Teachers need increased training on reading literacy and information handling skills and librarians need training on strategies for engaging in the learning process. The two professions need to develop a better awareness of their complementary roles in providing opportunities for higher academic achievement.

There is little explicit research examining the impact of the various models of service provision although the research from the states indicates a properly staffed, funded and resourced central library within the school has a great deal to contribute to student learning. Active SLSs in England are beginning to consider how the provision of support and resources they provide for schools impacts on student learning. However, there is little research in this area and the evidence is only available through the outcome evaluations of individual SLSs which are not necessarily widely reported.

This section of the review considers the impact of library services on student learning and examines and answers the following specific questions outlined by the Task Group:

How do services provided by the school libraries vary from school to school and what is the impact on pupils' learning?

Is there evidence suggesting which model of school library provision produces the best results in terms of pupils' experiences and levels of achievement, attainment and attitude to learning?

The review identified research examining the provision of services in school libraries. It becomes apparent from the national surveys and from research looking at other issues that schools are subject to a variety of different levels of library provision either through classroom collections, a central school library (managed by volunteers, teacher, librarian or library assistant), or a SLS. These models offer a wide variety of specific services for students and teachers. The research from the States indicates that some types of provision offered by a school library impact more directly on student learning than others. However, there is no clear evidence of how other models of service impact on student learning.

The emphasis of research from the States concentrates on flexible scheduling, i.e. whether the library operates a system allowing student access on a need basis, and the quality and variety of resources, including ICT provision. The services provided by the librarian, such as instruction to students or training for staff is also the focus of research, although the latter is generally a minor focus within a study. There is evidence that:

- the quality and variety of the collection is a significant factor in student learning and therefore adequate funding needs to be available to maintain current resources, both curriculum related and of general interest for student reading;
- collaboration between the librarian and teachers on collection development, increases teacher awareness of the resources and as a consequence increases student use of resources;
- flexible scheduling encourages student use;
- the quality and frequency of librarian instructional input has an impact on learning.

The review did not identify research that studied which model(s) of school library provision, i.e. library within the school, support from a Schools Library Service or a joint public/school library, produces the best results in terms of pupils' experiences and levels of achievement.

There is limited research which indicates that close relations between school libraries and public libraries have an impact on students' learning. Some American states, especially Texas, provide greater support for their school libraries and the same situation is known to be the case with Schools Library Services in England. The review recognises that SLSs are beginning to undertake impact evaluations that consider client outcomes, however consistent research in this area has not been identified.

2.4 Professional Expertise

2.4.1 Introduction

This section considers the professional expertise of the person in charge of primary library provision, in relation to student learning.

How do professional knowledge, skills and qualities of librarians relate to the impact on learning?

The importance of the presence of a librarian, library staffing levels, and collaboration between librarian and teaching staff has already been highlighted in relation to the impact of the library on attainment in the USA and elsewhere (see section 2.1). However, the staffing situation is different in England and one of the most significant challenges of considering professional expertise in relation to primary library provision is the lack of librarians working in primary schools. Therefore in examining the research on the professional qualities of the librarian in relation to learning it is important to consider not only the primary school librarian but also librarians working in centralised SLSs and teachers with responsibility for the library. Research from the USA, where primary school librarians are more common, provides evidence that the qualifications of the staff managing the library at all educational levels has an indirect impact on student learning. There is strong qualitative evidence that the experience and personal qualities and attributes of the librarian also important in influencing the learning environment.

2.4.2 Discussion

The Slovenian experience of the IEA study reported by Novljan (1998) states that: *“At the primary level, a professional librarian employed in the school library is more important for the development of reading literacy than a non-professional worker.”* The studies from the USA on academic achievement (Lance, et. al., 1993, 2000a, 2000b, 2000c; Smith, 2001; Baughman & Eldringhoff; Hall-Ellis & Berry, 1995) and the evidence from the study on reading literacy (Elley, 1992 & 1994) do indicate the positive impact of a professionally qualified librarian working in primary schools.

McGregor’s research (1999) shows the importance of personal qualities in providing opportunities for learning in elementary schools, particularly in relation to flexible scheduling. The key qualities identified were: flexibility; energy; a sharing and facilitating mindset; competence; persistence; awareness of national trends and best practice; sense of humour; enthusiasm; ability to deal with different kinds of people; inquisitive; risk-taking; and comfortable with change.

A study (Gwatney, 2001) examining the actual roles of the elementary school librarian in relation to the roles identified in Information Power (AASL & AECT, 1998), i.e. teacher, instructional partner, information specialist, and administrator, used data from observation, interviews and analysis of planning logs and diaries. The findings suggested 46.6% of librarian time was spent on administration, 23.6% on teaching, much lower percentages of time were spent as an information specialist (16.3%) and instructional partner (1.7%), and the remainder was taken up by other duties. This is significant because it highlights the need for administration of resources as well as the involvement of these librarians in a teaching role and in collaboration with teachers. This type of breakdown of activities provides a useful reflection point when considering the role of librarians in English primary schools. If the use of resources are to be taken seriously in primary education, as the curriculum suggests they should, then there is a strong case for these resources to be managed and delivered effectively. This is a significant issue for those schools in England where the library is managed as an additional duty. The teaching role taken on by American librarians is a more complex issue when applied to England where librarians are not required to have a teaching qualification. However, in nearly all UK public, academic and school library settings, librarians have an increasingly important instructional role. It is not clear from the literature on Library Power what was meant by “teaching”, and it is likely that much of that role was similar to the instructional support already being undertaken by librarians in UK education.

An article by Callison (1999) on the Library Power Program in Lincoln, Nebraska stressed the importance of the extra professional development for both teachers and librarians that was provided by the coordinating team at district (local authority) level to enable effective implementation of the programme. The coordinating team were carefully chosen to fulfil their roles and spent time working with individual schools in the project. As already indicated in section 2.3, the professional development programme emphasised the themes of implementation, interdisciplinary support, collaborative planning, community connections and library facilities, and within each of these themes more specific sessions were conducted. The evaluation suggested that this staff development helped to ensure increased use of resources and greater integration of information literacy. The report acknowledges that test scores in the district were already high and therefore it might be difficult to raise them substantially and that the timescale and tools were not available to understand the true impact on student achievement.

Webb & Doll (1999) discuss the nature of collaboration as *“involving two or more people of equal status, at least within the forum of the meeting”* and *“working to reach a common goal, which often ultimately is to benefit the students”* (p29) and this is an area of challenge for English secondary librarians working with the teaching profession. The lack of research into primary school librarians in England means that it is not possible to establish the relationship between primary teachers and librarians, however the status and roles of librarians, as perceived by themselves or teachers, would need to be addressed if recommendations are made for greater employment of librarians (in schools or in SLs) in the primary sector. The various studies from the USA do suggest there are strategies that could be adopted to ensure maximum cooperation and collaboration between the two professions to ensure effective teaching and learning using library resources.

During the Library Power project it was emphasised that teachers and librarians should work together (Webb & Doll, 1999) and school principals indicated that Library Power had been partly responsible for increased collaboration within their school, particularly with library activities, such as collection development, and inter-disciplinary projects. However, there was widespread variation in the purpose of collaboration and intensity of collaborative activities. The Webb & Doll article (1999) suggested a hierarchy of collaborative levels: awareness; parallel; coordinated; interactive; and shared, which was supported by collaboration logs, used as a method of data collection, and observation in case study schools. One reason given for the increased collaboration was staff development which enabled participating teachers and librarians to appreciate how they could collaborate. The librarians in these Library Power schools were still teaching the traditional library skills, however, the instruction was no longer taught in isolation but as part of a curriculum unit. Collaboration was not something that was found to increase during the progress of involvement in Library Power, except in the area of collection development. This suggests that there might be a limit to the extent of collaboration between the two professions and, if with further research, this proved to be the case, it would have a bearing on the role of librarians working in both secondary and primary schools. Research by Bell & Totten (1991a, 1991b) in Texas investigated the cooperation of professional and paraprofessional librarians with teachers in relation to personality traits. The two groups of librarians showed significant differences on only four of the traits that were considered likely to influence the operation of the service provided: intelligent, resourceful, outgoing and socially bold. It was found that these did not impact on the degree to which their cooperation was sought by teachers on hypothetical instructional problems. The study did conclude that where cooperation is high the status of the librarian within the school environment is increased and the instructional elements were more likely to be cohesive. This single study would suggest that personality traits are less important for collaboration than they might be in other aspects of library provision.

Tallman & Tastad (1998) conducted research on the potential for Library Power to change the perception and use of the school library. The interviews with librarians, principals and teachers identified positive changes across the school in terms of attitude to the role of the library, the nature of collaboration, teaching and learning styles, use and integration of resources. Kuhlthau (1999) identified the important contributions made by the Library Power Initiative as the combination of funding, use of full-time librarians with appropriate support staff, flexible scheduling and professional development in collaborative planning and teaching strategies. The evaluation conducted by Kuhlthau also recognised important elements within the school which enabled the Library Power Initiative to enhance learning as the need for an inquiry approach to learning and a commitment to making this type of learning happen. This evaluation recognised the difficulty of sustaining the increase in resource use over time unless a change in attitude towards the library as a place for learning also took place. The schools reporting integration of

library skills and improved information skills used test scores to demonstrate the progress and had developed a high level of understanding of the inquiry process. Thus any recommendations for increased library provision within the primary sector would need to address the issue of attitudes towards, and perceptions of, the use of the library within the teaching and learning process.

Reid (1997) carried out a very small scale study for a dissertation on how primary school teachers select fiction for use in school. The research indicated that teachers were aware of the importance of fictional reading but were critical of the initial teacher training provided to support the selection of reading material and how closer links with the SLSs could enhance support by providing inspection copies, displays and in-service training. There are SLSs that are active in maintaining strong links with primary teachers and the education department and provide support in terms of guidelines and in-service training. However, as described by Streatfield & Markless (2000) and Creaser (2000) the existence of SLS provision is uneven, services provided vary and the ability to evaluate the effectiveness of provision rather than user satisfaction is minimal.

In 1990 a final report was published in New Zealand, evaluating the educational impact of the appointment of full-time trained teacher librarians. The approach was qualitative and considered how the teacher-librarians promoting resource-based learning strategies in teaching programmes, increased access to and quality use of resources in both secondary and primary schools. While overall the report recognises the value of training for teacher-librarians the problems encountered by the teacher-librarians were similar to those expressed in other research studies where librarian status is mentioned; teacher understanding of library and librarians' role; collaboration and integration. Significantly the report states: *"The difficulty for these Teacher-Librarians is that they do not always have a clear criterion or standard to judge their performance against (unlike, for example, a classroom teacher who can judge the effectiveness of his/her teaching by the number of pupils who pass a School Certificate subject etc.)"* It is interesting that, although the report recognised that impact takes a while to be felt, where impact was discussed it tended to be identified in terms of use of the library rather than learning outcomes. The more experienced librarians were identified as more successful. This report uses a small sample of 38 trained teacher-librarians and only a small proportion of these worked in primary schools. Although the report expressed the view that the introduction of trained teacher-librarians was successful for encouraging greater resource-based learning the problems encountered in common with other studies herald a cautionary note. The system was not sustained and even schools where the introduction was considered successful admitted sustainability would be a problem in the current educational climate of uncertainty.

A trial professional development programme is currently in operation in New Zealand and centres on the teaching of information literacy to teaching staff (Moore, 2000). This is a limited project and is not complete, however, it does suggest one possible means of tackling the question of information literacy particularly in primary schools in England where, like New Zealand, there are few librarians. This programme was based on a previous study (Moore, 1997) which highlighted the need for greater understanding by teachers of information literacy and how to use this understanding to enhance the skills in students at all levels and ability. The hope is that teachers' understanding and expectation will increase and the advantages of employing a trained librarian to support information skills delivery and administer the resources will become apparent. This would then ensure that librarians would be employed in a school that is committed to library provision and information literacy instruction, where support and collaboration is expected and effective library use can be demonstrated. Cambridgeshire SLS also provide a training programme in library management and information literacy for teachers.

A short article by Charlton (1995) looks at the impact on the school, curriculum usage of resources, teaching and learning and on students, although little specific evidence is provided.

Knuth (1995) highlights the disadvantages of having teaching and library professionals working in parallel without a real understanding of each other's expertise. This is one of the major issues that requires resolution: the training of teachers in information literacy and the training of librarians in educational and curriculum matters. If primary schools are not required to, or in a position to, employ a librarian, teachers need a greater understanding of how resources can support teaching and learning. Librarians working in SLSs also need greater links with the education department and individual schools to ensure service meets teaching and learning objectives.

The review did not reveal any research that examined the professional qualifications, experience and personal attributes of library staff working in centralised SLSs or other personnel with responsibility for primary library provision. It is likely that similar qualities as those identified for librarians in McGregor's research (1999,) are also required for effective librarians working in SLS, teachers with responsibility for the primary school library and volunteers, i.e. flexibility; energy; a sharing and facilitating mindset; competence; persistence; awareness of national trends and best practice; sense of humour; enthusiasm; ability to deal with different kinds of people; inquisitive; risk-taking; and comfortable with change.

2.4.3 Key Points

There has been limited research that examines specifically the extent to which professional experience and personal attributes impact on student learning. However, the Lance style quantitative studies and the more qualitative research examining Library Power and other aspects of library service provision do indicate that professional experience (rather than qualifications) and personal attributes are significant in enhancing student learning associated with the library. The willingness and ability to work collaboratively with teachers is a key factor but it is not clear whether this is dependent on the nature of the librarian's pre-service training and qualifications.

There is evidence from these American studies that staff development for both teachers and school librarians increases awareness and understanding of the contribution library provision can make to student learning. The training of teachers in the UK may provide one avenue for further research and development.

This section of the review, on the impact staff qualification and experience have on student learning, examines and answers the following specific questions outlined by the Task Group:

What role does the school librarian (professional librarian, teacher or volunteer) undertake in the school? Is there a link to good teaching practice and achievement?

To what extent do the different backgrounds of the staff responsible for managing the school library and its resources limit or increase its effectiveness as a learning resource?

There is a link between the role of the school librarian and good teaching practice and achievement. There is evidence that school librarians who take a professional and proactive approach to their role within the school can cite evidence of their impact on teaching and learning. There is continuing research into staff development of primary teaching staff which will give a clearer indication of whether library provision can be

effectively delivered without on-site librarian input. The statistical evidence from research conducted abroad indicates that professionally qualified school librarians have a positive impact on student achievement. However, further research into this subject is required in England as even where there are librarians in primary schools, the qualifications required are different from those required in other countries.

The research is also not conclusive in establishing the extent to which personal attributes are directly significant to student learning. However there is evidence to suggest that indirectly particular qualities are important, especially the ability to be proactive, take on a training role and this presumably requires a degree of confidence in library, information and literacy management and instruction skills.

3 CONCLUSIONS

3.1 Summary of Evidence

The critical review of literature has demonstrated that there is evidence to support the view that:

- library provision can contribute to academic achievement, particularly in reading literacy, in primary level students;
- the contribution to learning is dependent upon quantity and quality of collections and access to further resources and support from outwith the school environment;
- librarians who are qualified, experienced, proactive and confident in managerial, collaborative and instructional aspects enable student learning opportunities;
- enabling resource use at the point of need (flexible scheduling) and integration into the curriculum is an important service for promoting learning, however it is found to require whole school support for effective implementation;
- school library provision is dependent upon clear guidelines and standards, staff development training and support from a regional authority that has links to both library and educational departments;
- the public library and SLS sectors in the UK are beginning to examine the links between student learning and academic achievement in relation to library provision;
- there is limited research world-wide on the broader aspects of learning associated with library provision at primary level.

Overwhelming evidence from all the literature suggests the need for greater understanding of information and reading literacy by the teaching profession.

Staff development is one of the most significant methods of introducing and establishing a culture that recognises the association between reading and information literacy and library provision.

3.2 Applicability of the research to English primary school library provision

A number of issues have been highlighted throughout the report which indicate particular challenges in applying some of the more significant findings from abroad to the English primary school setting. For example, given the variation in current library provision and staffing within English schools, caution has to be exercised in making generalisations from studies undertaken in countries where librarians in primary schools have a teaching qualification. Also, the literature demonstrates that there is much work still to be done in order to understand the causal relationships between teaching, resources, personality factors on learning.

Nevertheless, there is compelling and transferable evidence to suggest that there is a link between library provision and learning in primary schools and that this link is related to an emphasis on reading development and a curriculum that is less strictly subject based than in secondary education. Key factors in achieving a positive impact on learning appear to be:

- the need for collaboration between the teaching and library professions;
- the quality and variety of the collection and adequate funding;
- flexible provision at the point of need;
- the quality and frequency of librarian input in support of teaching and learning;

- the presence and personal qualities of professionally qualified staff;
- standards and how they can be used to enhance the service and teaching and learning;
- ongoing appropriate staff development.

There are challenges in implementing and sustaining the most effective library provision supported by collaboration and quality collections. The funding implications for primary school library provision are significant, either in establishing primary school libraries or the development of consistent and cohesive SLSs.

There are valuable lessons to be learned from the major research models, namely that:

- quantitative measures alone are not sufficient to understand the complexity of the impact of the library/librarian on learning;
- interventions appear to be a useful approach to creating change;
- to be successful in this way interventions need to be supported in terms of staff development and ongoing funding.

The introduction of the National Literacy Strategy (NLS) has undoubtedly had an impact on student achievement (negative or positive) and one of the avenues for further research might be to review the NLS related research studies with a view to identifying any impact on the quality and quantity of the library/book collections in primary schools. The next appropriate stage might be to concentrate on the organisation and administration of these resource collections in terms of some form of librarian input.

3.3 Gaps in the research & suggestions for further research

More precise and concise information is needed on the current situation in England with regard to primary school libraries and librarians, teachers with responsibility for libraries, and the use of volunteers and SLSs.

There is limited research originating in the UK that has managed to document consistent evidence supporting aspects of library provision and the relationship with learning at primary level. Further research is needed to establish how the different models of library provision impact learning, and the most effective role for librarians working with primary teachers, either directly in schools or indirectly through the SLSs and public library sector.

There is limited research into the impact of library provision on broader learning experiences, for example confidence and attitudes to learning and how such qualitative data might be collected. However, this is not considered to be a priority area for further research at this stage. Primary schools are in a better position than secondary schools to examine learning in a more holistic sense for themselves. Research of greater benefit to them might be concerned with the fundamental management and implementation issues which need to be resolved.

More research is also required to establish whether increased training of teachers in information literacy and the use of resources within the curriculum, perhaps with greater support from regional SLSs which have close links with both library and education departments, would increase library use and academic achievement. There is also a need for further research into whether developing teachers' awareness of reading habits and knowledge of children's literature impacts on student literacy.

The New Zealand research model of training teachers in literacy and information skills should be given careful consideration as an appropriate strategy given the current state of primary library provision in England.

However, before further research is commissioned it is suggested that a thorough review of PhD and BEd dissertations is carried out. While time constraints and the difficulties associated with obtaining access to dissertations meant that we could not include a detailed analysis, a number of highly relevant dissertations were identified as a result of our search strategy. This potentially valuable area of research should not be overlooked and a selection of dissertations discovered is listed separately at the end of the bibliography accompanying this report.

There is also scope for good quality action research to provide more substantial evidence of the experience and outcomes of the initiatives which are undertaken by LEAs and SLSs. These are often reported as developments or tools but could also lend themselves to more sharing of experience and evidence. Examples mentioned in this review include the Birmingham Bookflood Project (Rogers & Needham, 1999), Cambridge SLS training programme Charlton (1995), and Buckinghamshire's "The Learning Space" (Ryan, 1995a,b).

3.4 Strategies and methodologies which school libraries & services in England can adopt to assess the impact they have on attainment & learning

Many of the issues emerging from this report are reflected in the review on school libraries and secondary student learning (Williams, Wavell & Coles, 2001) and the following strategies have been more fully discussed in the earlier secondary report.

The *quantitative methodology* used by Lance and in the Texas study could be adapted for use in England, particularly to clarify any broad relationship between the varying models of library staffing and impact on achievement. However this type of study is limited in value to academic attainment and identification of broad trends and is not sufficient to understand the complexity of the interaction between the library, the librarian and learning. This is especially true in England where SLSs play a significant role in primary library provision and on-site librarians are unusual. Also, to enable such an approach to be useful in England, data sets would need to be clearly established for ease of collection on a regular basis, using indicators of achievement which can be related to libraries. SATs are thought to provide a useful starting point for pilot studies.

OFSTED inspection are not yet an appropriate means of establishing impact because libraries are not statutory and are only mentioned in some reports. However, after further research to clarify the contribution school libraries can make, inspectors could be armed with clearer guidelines to make inspection a more useful evaluation tool.

Appropriate *intervention* provides a useful approach to promoting a change in practice and attitudes towards resource use in primary schools. The evaluation of interventions requires a qualitative and quantitative methodology. Two current initiatives offer important opportunities to begin to examine these issues in relation to schools in England.

- The current New Opportunities Fund ICT training for teachers and librarians is the starting point for ongoing professional development and has the potential to raise awareness of information handling skills within both professions. This kind of understanding is necessary if the contribution of a library to learning and achievement is to be understood and maximised.
- The National Literacy Strategy places learning and achievement at the centre of school

development. Any future research intervention should be closely associated with teachers' and curricular needs for the NLS, as any initiative needs substantial school support for effective implementation. Any educational research already undertaken on the NLS should be considered in relation to future research and developments in this area.

These two major interventions offer the kind of foci for evaluation, reflection and development which have proved so important in school library developments in the USA.

Commercial bodies have been quick to establish links with literacy by providing tokens for books, computing equipment, etc. It would be worth investigating whether this source of support could be harnessed for a programme of intervention or resource provision more closely allied to needs identified by current and future research.

Any intervention needs to be preceded by data collection to provide a base level of impact and evaluated during and on completion to establish any positive and negative impact and causal relationships wherever possible.

To be successful interventions need support in terms of staff development and ongoing funding. Staff development should include the training of teachers and librarians in reading and information literacy; the integration of resources into the curriculum and strategies such as collection curriculum mapping; and policy, planning and evaluation to assess practice, progress and aid future development. If one considers the learning framework identified by Williams and Wavell (2001) in relation to teacher and librarian learning, then developing skills through in-service and initial training will lead to greater understanding, improved performance and increased confidence in support for information literacy. In turn, this is likely to enable interaction and collaboration between all professionals involved in library provision and resource use.

This staff development role is one the SLSs are well placed to undertake as long as it is not isolated from educational goals. Sufficient funding is required to ensure resources are effectively used to support teaching and learning and that they are appropriate for the curriculum, up to date and plentiful.

Standards can provide the basis for establishing a coherent, systematic and planned approach to developing and maintaining an efficient and an effective service. Standards developed for use with primary library provision need to reflect the different models of library provision while also ensuring continuity with the secondary school curriculum and libraries and the role of the SLSs. Examples of standards identified in the secondary report (Williams, Wavell & Coles, 2001) include those developed for the efficient management of the service; for professional development; and for the achievement of outcomes related to information literacy, access and learning. While the introduction of standards has a role to play, it is important that they are seen as a framework or tool to aid professional development, not as a statutory imposition. The SLSs have a major role to play in developing, piloting, supporting and evaluating standards.

Such standards all have a place within the learning environment, however, before any standards can be adopted greater clarity is required on what role library provision should play within the school and education as a whole. Should library provision in primary schools be managed by teachers? To what extent should the SLS support reading development and information literacy training for teachers and parent volunteers? To what extent should schools and teachers be involved in the identification of appropriate resources and the development of instructional units promoted by the SLS? How should the collaboration between librarians in the SLS, local public or secondary library and the education professionals be maintained for

maximum benefit for all parties? The evidence from this review of literature does little to resolve these questions.

An *evaluation tool*, to take account of qualitative evidence, is needed to establish indicators of learning or to enable librarians and teachers to establish their own indicators and this information is most useful at an internal level to establish why impact is or is not taking place. The work of Streatfield and Markless in the UK; Williams and Wavell in Scottish secondary schools; and Kuhlthau in the USA may all be useful in developing an appropriate framework. It is important, however, that the development of appropriate indicators is done in the light of decisions and clarification on the role of central librarians, on-site librarians, volunteers and teachers; the introduction of appropriate standards; and training to ensure both teaching and library professions are working with understanding towards the same goals. The use of portfolio assessment (Callison, 1993) has been suggested as a useful method of collecting samples of student work gathered over time to reflect change and hopefully progress. Given the nature of the curriculum and approaches to teaching, primary schools should be in a strong position to examine and evaluate the learning associated with the use of resources. However, librarians in SLSs are not in the same position and will need additional methods for gathering evaluation data.

4 RECOMMENDATIONS

- Research should be conducted to establish the extent of the existence of different models of library provision in English primary schools including the on-site school library managed by a librarian; the collection managed by a teacher and/or volunteers; the on-site library with or without the support of a Schools Library Service.
- Research should be conducted into the impact of the different models of library provision identified on student learning.
- Research related to the National Literacy Strategy should be reviewed in relation to the use and management of library collections, selection of resources by teachers, and how such issues impact on learning.
- Consideration needs to be given to ensuring that pre-service training and professional development training of both teachers and librarians addresses the need for greater understanding of their professional contributions to learning in school libraries.
- Consideration should be given to identifying and piloting process and outcome standards appropriate for use in primary school library provision. To ensure continuity, these should be considered in relation to any standards put in place in the secondary sector.
- Ideally all primary schools should have the funds to support the service of a qualified full-time librarian to manage well-resourced school libraries. However, as the situation stands, priority should be given to identifying appropriate models for:
 - training for teachers in library management, resource integration within the curriculum and selection of reading material;
 - training in curricular issues and resource integration for librarians working in Schools Library Services, Public Libraries and volunteers working in school libraries;
 - ensuring that all primary schools have the support of a Schools Library Service;
 - establishing close relations between Schools Library Services and education departments.
- Once some of the above measures have been put in place, it would become more appropriate to undertake the kind of longitudinal study of impact of primary library provision on learning, based on the implementation of appropriate standards, as recommended in the previous secondary report:
 - adapt the quantitative studies used in the USA for use with KS1 and KS2 SATs and pilot to establish whether the methodology is transferable to the English primary education;
 - implement appropriate intervention(s) related to training and standards (see above);
 - apply a qualitative evaluation of the intervention using the standards and any indicators developed. Apply the adapted Lance model again after intervention(s) to identify any impact on learning.

5 REFERENCES AND ANNOTATED BIBLIOGRAPHY

American Association of School Librarians and Association of Educational Communications and Technology (1998) *Information Power: building partnerships for learning*. Chicago: American Library Association.

Abstract: American Library Association standards for information literacy and student learning, closely linked with the 1988 *Information Power* publication (*Information Power: guidelines for school library media programs*). The mission statement remains the same, that the library should ensure that students and staff are effective users of ideas and information,

- by providing intellectual and physical access to materials in all formats
- by providing instruction to foster competence and stimulate interest in reading, viewing, and using information and ideas
- by working with other educators to design learning strategies to meet the needs of individual students. (p1, *Information Power: Guidelines for School Library Media Programs*, 1988)

Seven goals are also identified:

"- to provide intellectual access to information through learning activities that are integrated into the curriculum and that help all students achieve information literacy by developing effective cognitive strategies for selecting, retrieving, analyzing, evaluating, synthesizing, creating, and communicating information in all formats and in all content areas of the curriculum

- to provide a physical access to information through a carefully selected and systematically organized local collection of diverse learning resources that represent a wide range of subjects, levels of difficulty, and formats; a systematic procedure for acquiring information and materials from outside the library media center and the school through such mechanisms as electronic networks, interlibrary loan, and cooperative agreements with other information agencies; and instruction in using a range of equipment for accessing local and remote information in any format
- to provide learning experiences that encourage students and others to become discriminating consumers and skilled creators of information through comprehensive instruction related to the full range of communications media and technology
- to provide leadership, collaboration, and assistance to teachers and others in applying principles of instructional design to the use of instructional and information technology for learning
- to provide resources and activities that contribute to lifelong learning while accommodating a wide range of differences in teaching and learning styles, methods, interests, and capacities
- to provide a program that functions as the information center of the school, both through offering a locus for integrated and interdisciplinary learning activities within the school and through offering access to a full range of information for learning beyond this locus
- to provide resources and activities for learning that represent a diversity of experiences, opinions, and social and cultural perspectives and to support the concept that intellectual freedom and access to information are prerequisite to effective and responsible citizenship in a democracy."

American Association of School Librarians and Association of Educational Communications and Technology (1988) *Information Power: guidelines for school library media programs*. Chicago: American Library Association.

Abstract: Precursor to *Information Power: Building a Partnerships for Learning* (1998)

Ark, C.E. (2000) *A Comparison of Information Literacy Goals, Skills and Standards for Student Learning*. *Ohio Media Spectrum* 51 (4):11-15.

Abstract: A review of research identifying criteria that influence student academic achievement.

Key observations include:

- "students who read for leisure and knowledge as well as for information required for class assignments achieve higher reading, writing, and vocabulary scores on standardized tests (Krashan, 1993 and Colorado Department of Education, 1998)"
- "students have higher reading scores when they attend schools where the library media specialist is a certified teacher and where information literacy programs are conducted with the

latest information technology sources (Lance, 1993 and Colorado Department of Education, 1998)"

- "students have higher reading scores when they have access to more materials and when they have access to information technology information resources through the school library media center (Lance, 1993 and Colorado Department of Education, 1998)"

The goals, skills, standards and information literacy expectations for student learning are compared, although there is little detail or analysis, and further findings from Lance (1993) are summarised.

Association for Teacher-Librarianship in Canada (ATLC) and Canadian School Library Association (CSLA) (1998) Students' Information Literacy Needs: competencies for teacher-librarians in the 21st century. *Teacher Librarian* **26** (2):22-25.

Abstract: The major professional and personal competencies necessary for teacher-librarians developed by the Association for Teacher-Librarianship in Canada (ATLC) and the Canadian School Library Association (CSLA) are discussed with particular reference to the role of the teacher-librarian, impact on school culture and student achievement, collaboration with teachers, and incorporating information literacy.

Barron, D.D. (2000a) Standards and the School Library Media Specialist (Part I). *School Library Media Activities Monthly* **17** (3):49-51.

Abstract: A review of standards supporting the goal of student achievement including standards in information technology from ANSI (American National Standards Institute) and NISO (National Information Standards Organization), and learning standards from NSSE (National Study of School Evaluation), ACR (Alliance for Curriculum Reform) and AASL (American Association of School Libraries).

Barron, D.D. (2000b) Standards and the School Library Media Specialist (Part II). *School Library Media Activities Monthly* **17** (4):49-51.

Abstract: Continues a discussion of standards related to school library media specialists (see Barron, 2000a) and includes discussion of National Council for Accreditation of Teacher Education; American Library Association; National Board for Professional Teaching Standards; International Society for Technology in Education; Council for Basic Education; standards based instruction, and standardized testing.

Baughman, J.C. and Eldrighoff, M. (1999) Massachusetts School Library Media Survey. <http://artemis.simmons.edu/~baughman/survey/> [22/02/02]:

Abstract: The document reviewed is a preliminary edition of a paper presented at a symposium at Simmons College, Boston and is widely cited. It reports on a study (the Simmons Survey) conducted in pre-secondary and secondary schools in the USA which suggests a link between school libraries and academic achievement. One thousand eight hundred and eighteen questionnaires were mailed to schools across Massachusetts and 519 were returned (289 elementary, 89 middle/junior and 108 high school). Detail about the content of the survey is not clearly provided but discussion of findings indicates that it was similar to that used by Lance et. al. in the Colorado studies. Survey data was then related to the MCAS (Massachusetts Comprehensive Assessment System) test scores. At each grade level, schools with library programs, with a higher book count, with increased usage, and with more open hours were found to have higher MCAS scores. At the elementary and middle/junior high school levels, the average MCAS scores are higher in schools where there is a library instruction programme, where there is a larger expenditure per pupil for school library materials, where there is a full-time school librarian and non-professional help. At elementary level the test scores are higher when the library is aligned to the state curriculum framework and at high school level when the collection is automated. The study indicates a need for automation in secondary schools and for professionally managed libraries with non-professional help, extended hours, frequent visits and that the achievement is related to expenditure on the collection.

Bell, M. and Totten, H.L. (1991a) Interactional Patterns of School Media Specialists With School Instructional Staff. *Library & Information Science Research* **13** (4):367-384.

Abstract: Reporting on the same project as Bell & Totten, 1991b

Bell, M. and Totten, H.L. (1991b) School Climate Factors Related to Degrees of Cooperation Between Public Elementary School Teachers and School Library Media Specialists. *Library Quarterly* **61** (3):293-310.

Abstract: This journal article reports on a study which tested a series of null hypotheses related to teacher cooperation with school library media specialists. A total of 1079 teachers and librarians from 39 Texas elementary schools similar in wealth, size and student demographic characteristics were included in the study. Nineteen schools in the sample ranked in the top 25% of all Texas elementary schools and 20 schools ranked in the bottom 25%. Results from the Texas Education Assessment Minimum Skills Test (TEAMS) were used to identify these schools. Teachers in the study were asked to complete a Sociometric Choice questionnaire in which they had to identify, referring to a list of names of their professional colleagues, the individuals they would consult for help and cooperation in solving school-related problem. Librarians were asked to complete Cattell's Sixteen Personality Factor Questionnaire. While the research did not look directly at the impact of different levels of cooperation on academic achievement, it was found that "academically highly effective public elementary schools, as opposed to academically ineffective schools, are more instructionally cohesive" (p305) and that school media specialists are more likely to be chosen by teachers for cooperation on instructional problems in the effective schools. The connection between school academic success and the involvement of the school librarian in the instructional program is therefore highlighted. However no connection was found between personality characteristics of the school library media specialists and the extent to which they are approached by teachers for advice. It is also interesting to note that teachers were likely to cooperate in instruction with their school librarians at least as much, and in some cases more, than they were with their teacher colleagues.

Bishop, K. and Blazek, R. (1994) The Role of the Elementary School Library Media Specialist in a Literature-Based Reading Program. *School Library Media Quarterly* **22** (3):146-50.

Abstract: Report of a case study of the librarian's role in a literature-based reading program at an elementary school in Manatee County. Considers the three roles described in Information Power: information specialist, teacher, and instructional consultant. The author asserts "if an understanding of the roles of the school library media specialist can be determined, understood and communicated before a literature-based or whole-language program is initiated, the chances that the program will flourish and grow are greatly enhanced." An ethnographic case study technique was employed and data-gathering techniques were triangulated, including observation (20 days over a 6 month period), semi-structured interviews, and content analysis of relevant written documents. The school library media specialist involved in the study was professionally qualified. It was concluded that the librarian has a key role in the implementation of a literature-based reading program, their impact possibly being commensurate with "individual dedication to certain well-developed principles of access and collection development." (p148). Observations revealed that teachers were highly dependent on the librarian's bibliographic advice, she had a significant role in guiding teachers, students and administrators in the selection of resources. The teaching role described in Information Power was fulfilled through curriculum integrated instruction, the success of which lay largely with the media specialists efforts to "foster the love of reading in students" (e.g. posters, displays, informal conversations with students, planned lessons, and special activities such as reading contests and school-wide projects). It was noted that this was achieved without clerical help, and that the teaching role of the media specialist could be improved if clerical assistance was available. With regard to the instruction consultant role, it was reported that a great deal of trust was placed in the knowledge and expertise of the media specialist by the members of the teaching faculty - they were quick to make use of materials provided by her that dealt with whole-language philosophy and literature-based reading approaches. It was noted that the nature of the relationship between the school library media specialist and the teachers, students and administrators is key to the success of the program "the

positive relationships established by the media specialist in this study represented a definite asset in the success of the program and contributed to the attainment of the educational goals of the literature-based reading program." (p149). Flexible scheduling was also seen as an essential component of the initiative. However, as the author emphasises that as the study was conducted in just one elementary school, generalisation of results is problematic.

Callison, D. (1993) The Potential for Portfolio Assessment. *School Library Media Annual* 11 30-39.

Callison, D. (1999) A Site-Level Library Power Case Study of Lincoln, Nebraska: educational excellence on the plains. *School Libraries Worldwide* 5 (2):45-62.

Abstract: A case study of Library Power implementation in Lincoln (over three years). It is stated that Lincoln, prior to the adoption of Library Power, had already adopted a number of the recommended actions, e.g. information literacy instruction, collaboration in professional development etc. The researchers followed the library power evaluation guidelines for their case study, i.e. gathered and analysed relevant documents (over 400, including information skills guides, reports, collection maps etc), attended meetings, and conducted personal interviews with Library Power staff, district administrators, supervisors, consultants. A detailed description of how the initiative was implemented is provided, and positive results are highlighted, e.g. "The Library Power project has given validity to an accepted practice of collaborative teaching in the district, and most important, it has convinced many principals that should they need to interview future applicants for the position of school librarian they will involve their teachers in those interviews and expect to find evidence that the applicants desire a strong role in co-planning and co-instruction..." (p51). The impact of the scheme is also addressed under 7 subsections: new collections; collaborative teaching; integrated information literacy, student achievement and parent perceptions; community awareness; facilities improvement; and growth in confidence. It is asserted that the three roles (teacher, information specialist and learning facilitator) of the librarian were strengthened over the three years of the project. An increase in the frequency and degree of collaboration was also noted, and partnerships across the school district and community were strengthened.

- New Collections/Collaborative Teaching. The average copyright date for materials was improved, the breadth of titles available was increased, and a rise in circulation figures and thematic instruction/team teaching involving the librarian was recorded. Prior to the introduction of the scheme, the most frequent teacher use of library resources was "to borrow a few materials from the library from time to time, but not to engage the librarian in instructional planning or other teaching activities"(p55). Librarians were not viewed as professionals in the full range of teaching roles. The teachers were approached again 18 months later and this time most frequently reported that "the librarian was consulted as a professional who had ideas to contribute to learning activities and whose expertise in the use of library materials of good quality could be integrated into the enrichment of specific thematic units of study"(p56). It is pointed out that there were signs that greater numbers of professional staff would be needed to support teacher collaboration, although extra clerical assistance did help.

Information Literacy - Success in the field of information literacy integration is suggested through the wider acceptance of the value of information literacy: a "Guide to Integrated Information Literacy" was developed and became "a key curricular document across schools"(p57

- Student Achievement and Parent Perceptions - Stated that student achievement was already high in Lincoln, and that the impact of the initiative on student achievement would be difficult to demonstrate over a short period of time. The success of the project was also measured through parent opinion of the use of the library and media center. While prior to the Library Power initiative, the percentage of parent who thought that the schools were doing a "very good job of teaching students to use the library" hovered at around 40%. Following the implementation this had risen to 51% (whereas the results of the rest of the curricular areas had stayed the same).

- Community Awareness/ Facilities Improvement - impact is not addressed in these sections, but descriptions of activities are provided.

- Growth in Confidence - it is stated that a number of key project participants showed increased

confidence

Charlton, L. (1995) *Beginning in Focus: a training programme for infant and primary schools. School Librarian* **43** (4):132-133, 143.

Abstract: Description of a training course provided by the Schools Library Service for teachers in primary and infant schools who have responsibility for running the library.

Cocklin, B. (1997) *The Case for Flexible Scheduling and Cooperative Planning in the Elementary School Library Media Center. Ohio Media Spectrum* **49** (2):25-9.

Abstract: A review of the research and opinion on flexible versus fixed scheduling. Overwhelming conclusion is that flexible scheduling is the way forward. While the title refers to the elementary sector and much of the research was referenced was carried out in the elementary sector, no points specific to that context over the secondary sector are made.

Conerly, E. (1995) *Libraries, Literacy, and Learning: the impact of Library Power on instruction. LLA Bulletin* **57** (3):156-61.

Abstract: Author looks at the implementation of Library Power in 53 elementary schools across Baton Rouge, Louisiana. The article focusses on the library's role in the development of thematic units and the integration of information processing skills into this approach. The impact of Library Power on the schools is referred to and positive comments from principals included, however, there is no indication that this feedback came via a formal evaluation project.

Convention of Scottish Local Authorities (1999) *Standards for School Library Resource Services in Scotland: a framework for developing services. COSLA.*

Abstract: This report followed the recommendation of the CoSLA's Standards for the Public Library Service in Scotland in 1995 that a study of the School Library Resource Services be undertaken to identify appropriate standards. The Task Group examined the functions of the School Library Resource Services, in schools and in Central Library Support Services (CLSS), with reference to their support for the curriculum. A total of 24 recommendations were made covering the areas of: Status of School Library Resource Services; Provision in pre-five, primary and special schools; Provision in secondary schools; CLSS; Quality matters. The recommendations relating to the pre-five, primary and special schools include: the establishment of a whole school policy on the School Library Resource Centre (SLRC) reflecting the school development plan; a regular review of funding by school management; that a member of senior management should be responsible for all school library issues; that the SLRC has ready access to the support of professionally qualified librarian; and that senior management should ensure that the resources, including ICT resources, meet the needs of all users and the curriculum. These recommendations differ to secondary requirements primarily in the area of staffing. In the secondary sector it is recommended that the library is staffed with a full-time chartered or qualified librarian (en-route to chartered status) whereas in the primary sector it is recommended that the school has access to the support of professionally qualified librarians. The implication is that the library need not be staffed by professional library staff, however it is suggested that models such as cluster arrangements or links with secondary schools are explored to provide better access to this professional support. Other differences can be associated with this difference of approach: it is recommended that in secondary schools, SLRC staff should be involved in planning and contributions to learning and that professional development should be provided for them. However, the recommendations for the primary sector do not reflect these suggestions with reference to professional library staff providing support to this sector. Recommendations for the CLSS include: that local authorities should consider which library services could be most effectively delivered centrally; that resource policies and mechanisms for school library staff development should be reviewed; that the education department advisory unit should liaise with CLSS librarians in curriculum policy planning; that if education and the CLSS are in separate departments of a local authority, effective communication, evaluation and monitoring should exist; and that there should be co-operation between schools, the CLSS, and the public library service to ensure best value in terms of staffing and service provision.

More generally, it is also recommended that Higher Education Institutions offering degrees in librarianship should review courses to ensure that all aspects of school librarianship are covered adequately and that the SLRC should be examined as an integral part of HMI inspections.

Conway, V. (1992) Libraries in Schools Matter. *International Review of Children's Literature and Librarianship* 7 (3):145-50.

Creaser, C. (2001) Schools Library Services 1990-2000. *School Librarian* 49 (1):12-13.

Abstract: Provides a summary and highlights trends uncovered by the Library and Information Statistics Unit (LISU) surveys of schools library services conducted between 1990 and 2000. Interesting trends noted include "In 2000, 13 local authorities - more than twice as many as in 1990 - had no schools library service arrangements, either on their own or in conjunction with a neighbouring authority." (p12); only 83% of LEA pupils are in schools receiving school library services (in London, only 65%); trends in expenditure are downwards in all sectors except the English unitaries; "Issues to schools have increased to 2.5 items per pupil served in 1999-2000"(p13). Trends in professional staffing are also shown to be downwards (bar metropolitan districts and unitaries).

Creaser, C. (2000) A Survey of Library Services to Schools and Children in the UK 1999-2000. Loughborough: Library and Information Statistics Unit (LISU).

Abstract: Statistical data collected about public and school library services to children covering the period from 1st April 1999 to 31st March 2000. There is little detail available for the primary sector, but interesting observations/statistics include:

- 1/3 of English counties have no school library service
- Across the UK 41% of schools library service staff are professional librarians (higher in London (50%) than in Scotland (37%))
- Across UK 64% of professional school library posts filled by chartered librarians
- 10% of services across the UK reported no librarians in professional posts
- Scotland: 86% (84% FTE) of posts filled by chartered librarians England (metropolitan districts): 39% (35% FTE)
- anecdotal discussion (e.g. p21-22) indicates that professional librarians more common in the secondary sector
- Schools Library Services generally serve all schools in their area, though sometimes excluding non-maintained schools. Where services are restricted to a particular sector, this is commonly the primary sector (see pp133-140)
- Take-up rate of full services (pp141-146) London: Primary (81%) Secondary (46%); English metropolitan districts Primary (93%) Secondary (75%); English counties: Primary (83%) Secondary (64%); English Unitaries: Primary (85%) Secondary (65%); Wales: Primary (92%) Secondary (93%); Scotland: Primary (100%) Secondary (89%); Northern Ireland: Primary (100%) Secondary (100%) **UK:** Primary (87%) Secondary (71%)
- User satisfaction - all but one SLS had methods of monitoring user satisfaction. 88%: direct contact with schools; 67% occasional surveys; 30% regular surveys; 64% evaluation forms with each service provided; 23% formal service review groups; 34% informal user groups.

Cullinan, B.E. (2000) Independent Reading and School Achievement. *School Library Media Research Online* 3 <http://www.ala.org/aasl/SLMR/vol3/independent/independent.html> [25/04/01].

Didier, E.K. (1988) Research on the Impact of School Library Media Programs on Student Achievement. United States: Libraries Unlimited, Inc.

Abstract: A review of research conducted into the impact of library media programs on student achievement, focussing on reading, writing, language development and library research skills. Research reviewed in this publication has not been included in this literature review as it falls outwith the date parameters set, i.e. pre-1988. However, it is often referenced, and should be considered to be a useful resource.

Doll, C.A. (1997) Quality and Elementary School Library Media Collections. *School Library Media Quarterly* 25 (2):95-102.

Dressman, M. (1998) Literacy in Other Spaces. *Language Arts* 75 (4):277-86.

Eisenberg, M.B. and Brown, M.K. (1992) Current Themes Regarding Library and Information Skills Instruction: research supporting and research lacking. *School Library Media Quarterly* 20 (2): http://www.ala.org/aasl/SLMR/slmr_resources/select_eisenberg.html [15/11/01].

Abstract: A review of research relating to Information Skills which raises some interesting questions. It is arranged around four themes: theme 1, the value of library and information skills instruction; theme 2, the nature and scope of library and information skills; theme 3, the integrated approach; theme 4, alternative methods of teaching library and information skills. Research cited is generally pre-1988, but where thought relevant to this survey, it has been added to the extended bibliography. In their discussion of them 1 Eisenberg and Brown quote an earlier literature review drawing on pre 1974 studies carried out by Didier in 1985 which included the conclusions: 1. Various aspects of the library media program have a positive impact on student learning; 2. Information Skills can be related to improvements in student achievement, performance on standardised tests and grade point average; 3. General library media programs can be linked to improvements in wider learning issues. In theme 2, the authors conclude that while the literature they found explored the nature and scope of library skills, it did not address how different skills approaches relate to performance (academic achievement). In theme 3, though research was limited and pointed to the difficulty of evaluating different methods of teaching skills due to the presence of many other variables, it was concluded that there was very little evidence that one method is superior to any other (e.g. computer assisted instruction versus traditional drill and practice).

Elley, W.B. (1992) *How in the World Do Students Read?* The Hague: International Association for the Evaluation of Educational Achievement.

Abstract: This work investigating the reading literacy of nine and fourteen year olds in 32 countries is widely referenced. Experimental case studies were conducted in order to identify the average level of reading literacy of the children and it was intended that factors relating to initial reading and reading development would be identified. Comparison between the participating countries and their relative scores in reading achievement shows a relationship between the number of library resources and higher achievement. However, the study considers a number of other literacy factors and further analysis would be required to ascertain the extent to which teaching activities and librarian involvement might also have a bearing on the findings. It should also be highlighted that the UK was not involved in the study. See also Martin & Morgan, 1994 and Novljan, 1998.

Elley, W.B. (1994) *The IEA Study of Reading Literacy: achievement and instruction in 32 school systems.* New York: Pergamon.

Abstract: This work reports on the same international study of reading literacy as Elley (1992), however, while Elley in the 1992 work provides an overview of the study from his perspective as project co-ordinator, this work takes the form of a collection of chapters written by the international contributing researchers to the project. Includes the widely referenced overview 'Differences Among Countries in School Resources and Achievement' by Kenneth N Ross and T Neville Postlethwaite.

Elley, W., Cutting, B., Mangubhai, F. and Hugo, C. (1996) *Lifting Literacy Levels with Story Books: evidence from the South Pacific, Singapore, Sri Lanka and South Africa.* In: *Anonymous Literacy Online, Proceedings of the 1996 World Conference on Literacy,*

Farmer, L. (2001) *Information Literacy: a whole school reform approach.* In: *Libraries and*

Librarians: making a difference in the knowledge age. 67th IFLA Council and General Conference (Boston, USA: Augus16-25, 2001).

http://www.ifla.org/IV/ifla67/papers/019_106e.pdf [July 2001]

This paper reports on a piece of action research conducted at an American high school already engaged in a five year funded project to encourage reform to meet district outcomes in reading, communication and mathematics. The library was incorporated into the reform within a faculty Research Strategies Study Group to look at the question of student research within the school as a whole, which provided a baseline of tasks and outcomes. The library media specialist provided professional development backup by identifying relevant research and practical examples of information literacy rubrics and standards, wrote guidelines for students and teachers and conducted in-service workshops. Students were also involved in the process of reform and identified what was being taught in middle school. This prompted discussions with feeder schools through which it was concluded that students from feeder schools with credentialed librarians were performing better in their first year than those without this input. The Group identified the need for students to improve skills and for teachers to improve their instruction and to coordinate their efforts. The library media specialist ensured coordination across the faculties and the experience produced a greater trust between colleagues to reinforce each others efforts.

RESERVATIONS/COMMENTS - This research suggests the need to consider primary provision within a research exercise. It illustrates how success can be achieved when an initiative is developed as a school need identified beyond the library. However in the English context, the librarian may not be in a position to develop the coordination and information literacy role to the same extent as they are not part of the teaching profession. If this approach was applied in England, therefore, there might be a need for preliminary investigation into librarian readiness and/or ability to develop research skills.

Fitzgibbons, S.A. (2000) School and Public Library Relationships: essential ingredients in implementing educational reforms and improving student learning. *School Library Media Research Online* 3

http://www.ala.org/aasl/SLMR/vol3/relationships/relationships_main.html [22/11/01].

Abstract: The research on which this article reports is a scholarly review of a range of successful, cooperative relationships between public libraries and school library media centres funded by US Department of Education. The advantages and disadvantages of combined or cooperative school and public library service provision are explored. The article refers only obliquely to potential impact on learning and the primary focus lies with the attitudes of staff and practical issues of implementation and execution. Unique and common goals, and the types and relative merits of cooperative relationships are discussed. Potentially useful research on the subject is highlighted. Suggestions are also made concerning the development of successful partnerships.

Froese, V. (1997) The Relationship of School Materials and Resources to Reading Literacy: an international perspective. In: Lighthall, L. and Haycock, K., (Eds.) *Information Rich But Knowledge Poor? Emerging Issues for Schools and Libraries Worldwide: Research and Professional Papers Presented at the 26th Annual conference of the International Association of School Librarianship (IASL) held in Conjunction with the Association for Teacher-librarianship in Canada (Vancouver, British Columbia, Canada: July 6-11, 1997)*, pp. 283-303. Seattle, Washington: IASL]

Abstract: This paper uses the data gathered in the IEA reading literacy study (Elley, 1992) to explore reading literacy across the 27 countries included in the study. Particular emphasis is placed on school and classroom libraries and classroom teachers' practices in relation to library use. The paper also focuses on the nine-year-old age group within the IEA study. In the context of this review a couple of findings are of particular interest: 1. the number of resources in the school libraries does not effect reading achievement although children's estimates of the books in their homes was found to have a positive effect (the author suggests that this finding could have been misleading due to the difficulty in estimating the school library collection size); 2. while the extent to which books are borrowed from the school library shows a strong relationship with

reading achievement, borrowing books from classroom libraries does not. The author concludes "evidence from this study indicates that the relationships are not simple or as direct as one might hope" (p300). It should be highlighted that data and analysis of the impact on achievement is restricted to Canada due to the lack of availability of detailed data for the other countries involved.

Giorgis, C. and Peterson, B. (1996) Teachers and Librarians Collaborate to Create a Community of Learners. *Language Arts* **73** 477-82.

Grover, R., Blume, S., Dickerson, J., Fox, C., Kreiser, L., Lakin, J.M., Losey, B., McConkey, R., Schumacher, M. and Talab, R. (1999) Planning and Assessing Learning Across the Curriculum. *Knowledge Quest* **28** (1):10-11,13-16.

Grover, R. and Downs, B. (1999) Recent Doctoral Dissertations. *School Library Media Research* http://www.ala.org/aasl/SLMR/vol2/diss_grover1.html [15/02/2002].

Abstract: Summaries of dissertations in the field of school libraries (mainly American) 1994-1998. Dissertations relevant to this bibliography have been included and abstracts provided are quoted from this site.

Gwatney, M.C. (2001) Reality Versus the Ideal: a case study of three elementary school library media specialists performing their jobs. *Knowledge Quest* **29** (5):36-42.

Abstract: Case study of three elementary school library media specialist based in rural north Georgia. The author investigated the tasks they performed as part of a typical working day and compared them to the roles identified in Information Power: teacher, instructional partner, information specialist and program administrator. Data was collected through observation, interviews and analysis of plan books/calendars. As a group they spent 46.6% of their time on program administration and 23.6% on teaching, Time spent on their information professional and instructional partner role was much lower (16.3% and 1.7% respectively).

Hall-Ellis, S.D. and Berry, M.A. (1995) School Library Media Centers and Academic Achievement in South Texas. *Texas Library Journal* **71** (2):94-7.

Abstract: This journal article reports on a study which provides evidence of the positive impact of library media centres (LMCs) on academic achievement in 79 South Texas public schools during the 1991-92 school year. The study replicated Colorado and it was admitted that the sample was not ideal in terms of size or across the school levels (i.e. elementary, middle, high). Schools, rather than students, were used as units of study and service outputs as well as resource inputs were considered. The methodology used ruled out the effects of selected schools and the poverty or education of the community. The findings show a relationship between expenditure and academic achievement and conclude that the size of staff and collection are the best predictors of academic achievement. The instruction role of the LMS was found to be important in shaping the collection, identifying items and collaborating with teaching staff on their use. It was not clear whether other spending in the schools was considered as a factor in academic achievement, e.g. pupil/staff ratio. Texas has high profile library support and it would be worth investigating whether the states where this type of research is conducted and positive impact is found are also library orientated.

Hawkey, R. (1995) Certified Teachers for Idaho's Elementary School Libraries. *Idaho Librarian* **47** (2):51-4.

Haycock, K. (1999) Collaborative Program Planning and Teaching. *Teacher Librarian* **27** (1):38 http://www.teacherlibrarian.com/pages/whatworks27_1.html [28/11/01].

Haycock, K. (1992) What Works: regional educational media centers. *Emergency Librarian* **19** (5):33

Abstract: A review of Ph.D/Ed.D research on the subject of regional educational media centers.

All dissertations are pre-1978. The key research finding highlighted is that "Regional educational media centers can improve the quality of instruction but many teachers are unaware of the resources and services available to them". Brief comments and a bibliography are included.

Haycock, K. (1990) What Works: school and public library cooperation. *Emergency Librarian* 18 (2):33

Abstract: A review of Ph.D/Ed.D research on the subject of school and public library cooperation. All dissertations are pre-1984. The key research finding highlighted is that "There are benefits to students when school and public libraries cooperate". Brief comments and a bibliography are included.

Heeks, P. (2000) Assessing Services. In: Elkin, J. and Kinnel, M., (Eds.) *A Place for Children: public libraries as a major force in children's reading (British Library Research & Innovation Report 117)*, pp. 96-114. London: Library Association]

Abstract: A chapter of the report on the "A Place for Children Project", which investigated the impact of public libraries on children's reading, identifying the benefits and effectiveness of service-provision across the UK and sought to develop criteria and performance indicators to be used to inform future directions and policy decisions. The chapter referenced addresses the subject of assessment and considers the results of the research in the wider context of work undertaken on performance in public libraries.

Heeks, P. and Kinnell, M. (1992) Managing Change for School Library Services: library and information research report 89. Boston Spa: British Library.

Abstract: This project studied the "structures, policies, service range and level, and relationships between School Library Services (SLS) and their funding departments and with public library services to children" (piv). Three core questions were used to guide the project: What is the current state of SLS? How is the Education Reform Act (ERA) affecting them? and Why are specific choices being made from the options available to SLS? Methods used to gather data included a questionnaire survey sent out to all SLSs in England and Wales and a selection of SLSs in Northern Ireland and Scotland; analysis of statistical data from the Library and Information Statistical Unit (LISU); case studies of seven specially selected authorities; liaison with seven link library services; studies of the schools library services of the Southern Education and Library Board, Northern Ireland and the Lanark Division of Strathclyde Region, Scotland; and seminars and consultation with SLSs practitioners. While project revealed much activity and positive feedback regarding the then current (1990) state of SLSs, a number of areas of concern were highlighted: structures - there was an element of concern about the intervention of the library sector into the running of services within the education sector; policies - a minority of SLS were operating within a policy framework and policies that did exist were rarely integrated with education policy; and service range and level - although there was much activity reported, the outcome of that activity was rarely investigated. With regard to the impact of the ERA on SLSs, it was found that restructuring had brought forward new alignments and that the most positive relations were noted in those SLSs based in education departments. The rise in managerial roles is noted and the impact of differences of funding are discussed. It is shown that, in agreement with one of the hypotheses developed in the course of the research, the ERA was not having a uniform effect on SLSs but was being mediated by local cultures (p133). It was observed that there were few options available to individual SLSs, but those that were available included: selecting service range (heads of SLSs tended to make changes to reflect school priorities); opting from centralised or decentralised budgets; the design and costing of services (in this area "choice seemed governed by caution and considerations of saleability" (p134). New perceptions and measures of SLS effectiveness are also discussed and it is interesting to find that very few SLS had produced measures for judging their effectiveness even though a number had developed measures for judging school library effectiveness.

Heeks, P. and Kinnell, M. (1994) School Libraries at Work: library and information research report 96. Boston Spa: British Library.

Hopkins, D.M. (1989) Elementary School Library Media Programs and the Promotion of Positive Self- Concepts: a report of an exploratory study. *The Library Quarterly* 59 (2):131-147.

Abstract: This article reports on a study which aimed to identify the role of the library in promoting 'positive self-concepts' in children. Positive self-concepts are defined as the individual's perceptions of themselves, particularly of their value and abilities. Case studies of three elementary school library media centres conducted and data gathered through observation, diaries and interviews. Earlier research is cited that links academic achievement to a child's positive self concept, and this study explored the level to which factors that contribute to self concept existed in the library media centres. These factors (as identified in an earlier study by the author) were described as: cooperation; independence; success; challenge; feeling of value and positive atmosphere. Results provide "evidence of the positive role that the school library media centre, meeting certain criteria, can play in enhancing the school's objectives of helping students develop positive self-concepts and achieve academically." (pp146-147) Focuses on whether factors were present in schools rather than whether they had an impact on self-concepts (though it is suggested that this was concluded in a previous study) or whether self-concepts have an impact on achievement (though this is addressed by previous research cited).

Hopkins, D.M. (1999) The School Library Collection: an essential building block to teaching and learning. *School Libraries Worldwide* 5 (2):1-15.

Abstract: This article is clearly based on research, referring to survey responses and case study findings, but methodologies are not discussed in any detail. The article sets out to address a number of questions: In what areas did collections improve during the Library Power grant years? What factors contributed to collection development improvements? How did the collection form the basis for collaborations between the librarian and teachers? What were the contributions of the collection to teaching and learning? (p2-3) Collections across subject areas were found to improve in terms of currentness and quantity, and in those schools that had been in the Library Power program the longest, the collections are rated systematically higher. (p4-5). Top rated collections were associated with: reading improvement/motivation, biography, reference and science and technology. The author emphasises the importance of teacher involvement in the collection development process and states that "through the Library Power initiative, teachers became more involved in collection development and used the library more in instruction" (p10). The article concludes with the observation "...focused collaboratively developed library collection was an essential building block in the library program's contributions, through the librarian, to teaching and learning." (p14).

Hopkins, D.M. and Zweizig, D.L. (1999a) Student Learning Opportunities Summarize Library Power. *School Libraries Worldwide* 5 (2):97-110.

Abstract: Examines the Library Power program from the standpoint of student learning opportunities. Summarises the findings of earlier studies from a student perspective.

Hopkins, D.M. and Zweizig, D.L. (1999b) The United States National Library Power Program: Research, Evaluation and Implications for Professional Development and Library Education. In: Lighthall, L. and Howe, E., (Eds.) *Unleash the Power! Knowledge - Technology - Diversity: Papers Presented at the Third International Forum on Research in School Librarianship, at the 28th Conference of the International Association of School Librarianship (IASL) (Birmingham, AL: November 10-14, 1999)*, pp. 39-47. Seattle, Washington: IASL

Abstract: Conference paper on the Library Power initiative which focuses on the findings of evaluations. Conclusions drawn from the evaluations are discussed and the implications for training programs within the Higher Education sector for school library media specialists are highlighted.

Ireland, L.H. (2001) The Impact of School Library Services on Student Academic Achievement:

an annotated bibliography. Fifth edn, California, US.:

Abstract: This fifth edition of the annotated bibliography covers research on the influences of school library services on student learning in works published from 1953 through 2000. Where works cited have been relevant to this literature review, separate entries have been created.

Knuth, R. (1995) Factors in the Development of School Libraries in Great Britain and the United States: a comparative study. *International Information & Library Review* 27 (3):265-282.

Abstract: A comparison of the British and US school library models. The article begins with a short history of the development of school library provision in both Britain and the US which have resulted in two different models of school library provision. Through discussion of developments in both countries five factors which have had a positive or negative impact on school library provision are identified: standards, staffing and certification, government support, rationale, professionalisation.

- *Standards*: in America, standards have consistently been published by one organisation, the American Library Association and formulated by the American Association of School Librarians, in Britain this consistency does not exist, with a number of agencies producing different standards and related documents. It is asserted that standards reflecting a consensus among the school library communities are a way of focusing attention on the value of school libraries

- *Staffing and certification*: staff in American school libraries are generally dual-qualified teacher-librarians while in Britain two primary staffing models exist; a teacher-librarian (a classroom teacher with extra responsibility for the library) or a professional librarian. The author identifies problems with both the British models "teachers untrained in skills necessary to the management of effective libraries or employment of chartered librarians, who lack pedagogical skills"(p273)

- *Government support*: while government support and funding in America is shown to be strong, it is suggested that support (both financial and in terms of acknowledgement of their value) is not so evident in Britain. Though a number of British government reports are mentioned it is pointed out that these had only 'recommendation' status. A study conducted in 1985 that examined 52 HMI reports is also referenced which found that "there is no systematic or consistent assessment of a school's library" (p275). The varied history of responsibility and funding structures for British school libraries is also highlighted as a potential barrier to their development.

- *Rationale*: it is suggested that the stronger professional organisation in America has helped to forge a "elaborate educational rationale for school libraries" (p277) whereas in Britain this educational rationale has been more difficult to establish due to: 1, close ties with public libraries "associated with and supported by an outside agency with a recreational and service mission rather than an educational and instructional one" (p277); 2, the majority of school libraries are staffed by classroom teachers and their professional association (SLA) supports the day-to-day practice of these staff, rather than promoting an educational rationale for school libraries; and 3, the nature of education in Britain "a collection of discrete subjects" (p278). The fact that the different staffing approaches are supported by two separate professional organisations is also highlighted as a problem in developing a clear educational rationale "...the Library Association supports the hiring of chartered librarians which in effect undercuts any other attempts to justify school libraries as educational tools. The School Library Association seeks to improve the practice of teacher-librarians but is too weak to push through training schemes and adequate support provisions" (p278)

- *Professionalisation*: the existence of two professional organisations supporting the school library profession is again highlighted as a problem in the discussion of professionalisation "each struggles to be recognised as representing the goals of school librarianship and neither organisation has been able to maintain its ascendancy... official recognition has waned" (p279)

It is concluded that one way to look at British school libraries is as "a case of thwarted development [which can be attributed to] recurrent educational and financial crises, difficulties in winning acceptance for school libraries by the educational community, failure to establish a clear philosophical home for the service (whether in education or librarianship), difficulties in training and certification of librarians, divisiveness between rival professional organisations, and inadequate government support" (p281). It is recommended that professionalisation is key to providing a base from which to build support, and it is strongly suggested that the model of the library as a pedagogical tool is accepted through teaching training and co-operative partnerships,

and training and support systems (eg clerical help) for the librarian should also be implemented.

Krashen, S. (1993) *The Power of Reading: insights from the research*. Englewood, Colorado: Libraries Unlimited, Inc.

Abstract: A widely referenced review of research on reading with an emphasis on the impact of free-voluntary reading.

Kuhlthau, C.C. (1999) *Student Learning in the Library: what library power librarians say*. *School Libraries Worldwide* 5 (2):80-96.

Abstract: This journal article reports on a study that involving a number of schools that had taken part in the Library Power Programme. Methodology consisted of two approaches: an open ended survey question prompting librarians to describe a critical incident which illustrated a student learning experience (requested once a year over three years), and case studies of three Library Power libraries. Responses to the open ended survey question increased each year, provoking 331 responses in year 1; 405 responses in year 2 and 495 responses in year 3. Critical incidents were coded as follows:

Level 1: *Input* - emphasis on what the librarian did, not on students, i.e., adding to the collection
Level 2: *Output* - emphasis on quantitative measure of student use, i.e., more visits, more use of materials

Level 3: *Attitude* - emphasis on change in student attitude, i.e., increased interest and enthusiasm

Level 4: *Skills* - emphasis on location of resource and use of technology, i.e., locating books

Level 5: *Utilization* - emphasis on content learning, i.e., using resources to learn through inquiry in content areas of the curriculum.

For each year, approximately 85% of responses were coded at levels 3-5, however progression is shown through the fact the highest levels of response in the first year were coded at Level 3, in the second year at Level 4 and in the third year at Level 5. The author interprets this movement as a sign of the librarians' increased ability to recognise learning styles rather than actual improvement in students' use of the library. Improvement to students' learning or attainment was not directly addressed, however, from the librarians' responses, the researchers identified ten indicators of learning (p86) which ranged from those that could be broadly categorised as "intuitive observation" to "documentable evidence" (p87). These could be usefully applied in future studies of the impact of the library on student learning. Three case study schools were selected from the original sample and were used to explore differences in library programmes in order to address reasons for varying levels of success with the Library Power programme. It was concluded that Library Power was most effective when there was "a commitment to an inquiry approach to learning shared by the librarian, teachers, and administrators". The library has to be fully integrated into the learning process.

Lance, K.C., Hamilton-Pennell, C. and Rodney, M.J. (2000b) *Information Empowered: The School Librarian as an Agent of Academic Achievement in Alaska Schools*. Revised edn, Juneau: Alaska State Library.

Abstract: This study assesses the impact of Alaska school librarians on academic achievement in the state's public schools. and is based on "The impact of school library media centers on academic achievement" (Lance, et al, 1990). It demonstrates empirical support for the principles of "Information Power: building partnerships for learning" (1998). The relationship between staffing and student performance is investigated and staff activities that affect test scores are identified. A range of conditions of library operation were considered as potential predictors of academic achievement. During 1997-98, library media centers in 211 Alaska public schools were surveyed about their staffing levels, hours of operation, staff activities, usage, technology, policies and cooperation with public libraries. This data were added to the percentage of grade four, eight and eleven students from these schools who scored below proficient, proficient and above proficient in the California Achievement Tests (CATS). In very simplified terms the research findings state that test scores tend to be higher: with a full-time librarian; higher level of staffing; higher levels of student usage; when higher levels of staff activity were directed to providing

instruction to students, cooperative planning with teachers and providing in-service training to teachers; the more students received information literacy instruction in which the library media staff were involved. There was also a correlation between higher test scores and cooperative relations with the public library, online information access and a collection development policy. Additionally the study examined wider community and school conditions that might have an impact. While it was recognised that community factors have the strongest impact, wider school factors were less significant. RESERVATIONS/OBSERVATIONS - However, the report does not address some of the school ethos and teaching culture which might help explain the findings - for instance a school which supports its library may also have a culture of good staff moral, quality teaching. The schools taking part in the study were also in part self-selecting. Although there are educational differences and the librarians in the USA are dual-qualified there are important lessons to be learned from the study. It is clearly indicated that the activities of the librarian are important to the academic achievement of students. The use of standard tests (SATS) might be applied to a similar model.

Lance, K.C., Rodney, M.J. and Hamilton-Pennell, C. (2000a) *How School Librarians Help Kids Achieve Standards: the second Colorado study*. U.S., Colorado: Hi Willow Research and Publishing.

Abstract: Report of the second Colorado study. Building on the findings of the first Colorado study (Lance, 1993), key differences include: 1. a focus on the impact of library media specialists and the Library Media Centre's (LMC) *services* rather than the LMC as a specific place; 2. use of standard-based tests to measure student performance (as opposed to the norm-referenced test used in the first study); 3. the role of technology was explored to a greater extent. The method of sample selection is not absolutely clear, but the final sample included 144 schools (124 serving the fourth grade, 76 serving the seventh grade, 56 serving both). Questionnaires were completed by these schools and included questions relating to the following key areas: Library Media Centre Hours; Library Media Staff (e.g. types of staff, what qualifications they hold, how many hours they work); Paid Staff Activities (e.g. instruction, in-service training for teachers); Library Media Technology (e.g. number of networked computers, numbers with access to the WWW, library catalogues, processor/connection speeds); Usage of Library Media Services (e.g. interaction with users, circulation figures); Library Media Resources (e.g. inventory of holdings by format); Annual Operating Expenditure and Capital Outlay for the Library Media Centre; School Library Media Management (e.g. presence of advisory committee, how budget is requested/received). The study found that Colorado Student Assessment Program (CSAP) reading scores increase with increases in the following characteristics of library media (LM) programs:

- *LM program development*;

- *Information Technology*: test scores found to increase with increases in library access to networked computers (linking the libraries with classrooms), particularly when they provide access to Internet and WWW, licensed databases & LMC resources;

- *Collaboration*: test scores increase with increased library media specialist/teacher collaboration, and increased involvement of the library media specialist in provision of in-service training for teachers;

- *Flexible Scheduling*: A link was found between individual visits to the library and increased test scores;

- *Indirect Effects*: Leadership involvement was not found to have a direct effect on test scores, however it does have an impact on collaboration which itself has been shown to have an impact on achievement;

Additionally, it is asserted that the predictors of academic achievement outlined above can not be explained away by: school district expenditures per pupil; teacher/pupil ratio; the average years of experience of classroom teachers; their average salaries; adult educational attainment; children in poverty; racial/ethnic demographics.

Lance, K.C., Rodney, M.J. and Hamilton-Pennell, C. (2000c) *Measuring Up to Standards: the impact of school library programs & information literacy in Pennsylvania schools*. Pennsylvania: Pennsylvania Department of Education's Office of Commonwealth

Libraries. <http://www.statelibrary.state.pa.us/libraries/lib/libraries/measuringup.pdf>.

Abstract: This study followed a realisation by Pennsylvania Department of Education's Office of Commonwealth Libraries that the impact of a school library needed to be demonstrated to school decision-makers. The study replicated the first "Colorado study" (Lance, 1993). The study sought to confirm the findings of the "Colorado study" and to consider the impact of: specific activities of certified school librarians; the principal and teacher support for library programmes; and information technology, in particular licensed databases and the Internet. The study relates the findings to the American Association of School Librarians' 1998 standards, "Information Power: Building Partnerships for Learning". The findings indicate that Pennsylvania System of School Assessment (PSSA) reading scores increase with higher levels of staffing, information technology and the integration of information literacy into the curriculum. It was also found that as these factors rise, so does the involvement of the librarian in teaching students and teachers how to find and assess information. The relationship between staffing and test scores is not explained away by other school or community conditions. One of the major findings of this study is the importance of an integrated approach to information literacy teaching and must be part of the school's approach to both standards and curriculum. The indirect effects were found to be that higher levels of school library staffing, particularly certified staff, predict higher expenditures, more varied collections, increased access to information technology and more integrated approaches to information literacy, standards and curriculum.

It is not clear from the methodology how the participating schools were selected and this has a bearing on the data analysis. If the majority of participating schools were already aware of the need for quality library provision, they are likely to be providing quality in other areas of the school. The study was funded by Library Services and Technology Act (LSTA) grant.

Lance, K.C., Welborn, L. and Hamilton-Pennell, C. (1993) *The Impact of School Library Media Centers on Academic Achievement*. Castlerock, Colorado: Hi Willow Research and Publishing.

Abstract: This study conducted in the 1988-89 school year and sometimes referred to as the first Colorado study, was designed to develop evidence of the impact of the school Library Media Centre (LMC) on academic achievement. The sample of 221 schools was self-selected to some extent, though comparison with state statistics showed it to be representative of Colorado schools in terms of school levels, enrolment age, and school district setting (urban, rural, etc). Other factors that might be assumed to have an impact in academic achievement were also explored and addressed in the analysis. Main findings include: 1. where LMCs are better funded, academic achievement is higher, whether their schools and communities are rich or poor and whether adults in the community are well or poorly educated; 2. better funding for LMCs fosters academic achievement by providing students access to more library media staff and larger and more varied collections; 3. among predictors of academic achievement, the size of the LMC staff and collection is second only to the absence of at risk conditions, particularly poverty and low educational attainment among adults; 4. library media expenditures and staffing tend to rise and fall along with those of other school programs; 5. the instructional role of the library media specialist shapes the collection and in turn academic achievement; 6. collaboration between library media specialists and teachers is affected by the ratio of teachers to pupils. RESERVATIONS/OBSERVATIONS - Self-selection (but shown to be representative), and sample size.

Lealand, G. (1990) *The Educational Impact of the Appointment of Full-Time Trained Teacher-Librarians Final Report*. Wellington: New Zealand Council for Educational Research .

Abstract: Sample small and research exploratory. Research carried out 1987, 1988 and 1989, in variety of school levels. This is the report of the final year and reflects on the previous research. Methodology used was school-based interviews and mailed questionnaires and emphasis was on qualitative methods. The research examined the educational impact of the teacher-librarian's role in promoting resource-based learning strategies in teaching programmes, in increasing access to and the quality of resources and encouraging professional development in schools. This research looked at the first year of 19 full-time professionals in schools, they were joined by

34 in the following year but the final year only 38 out of the 45 were still in the research project. Difficulties in fulfilling the goals for the year because of resistance or lack of understanding of roles by teachers in the schools. Success identified by acknowledgement of their value and acceptance in managerial decision-making processes. The degree of support from head was critical.

Schools had benefited from trained full-time librarian by rationalisation, upgrading and development of resources. Became a centre for resource management and site for teaching development. There was improved quality of use of the library in selection and allocation of resources and all TLs reported increased use in terms of books issued and numbers of classes using, as well as increased independent or self-directed research by students, increased lunch-time or spare time use and increased recreational reading. Reported support from SLS as beneficial but less support from inspectorate.

Uncertainty about future funding and suspension of training in 1989. One head "I would have to rate the introduction of the TL as the most cost effective innovation I have witnessed in 38 years of teaching."

The research did not focus specifically on primary sector and 5 intermediate schools visited out of 16, 10 out of 21 questionnaires but no visits.

Secondary TLs more frequently expressed lack of involvement in collaborative planning than primary. Explains one difficulty of assessing the success was a lack of clear criterion or standard to judge their performance against, except those they set themselves or in consultation with senior management.

Library and Information Committee (2000) Empowering the Learning Community.
<http://www.lifelonglearning.co.uk/etlc/front/htm> [June 2001].

Library and Information Services Council (England) Working Party on Library Services for Children and Young People (1995) Investing in Children; the future of library services for children and young people. London: HMSO.

Abstract: A report exploring the "inter-relationships between libraries within schools, the schools library service, and the service within the public library service" (p1) which examines the library needs of children/young people, reviews recent research on the subject and assesses impact on services and looks at the effect of external change on the library needs of children/young people. A series of recommendations are offered. While the report looks across the library sectors provided services to children, emphasis lies with the public library sector.

A useful summary on the evidence and discussion of the impact of reading on academic achievement is provided, and the role of the library in relation to this is highlighted (pp11-12, 15-17), e.g. "numerous reports by HM Inspectors of schools throughout England and Wales testify that where library provision and use is poor, pupils' abilities in information handling and research and study skills are correspondingly under-developed." (p16). In discussing the role of the school library, it is suggested that a key factor in the exploitation of library resources is "the recognition that the school library is an integral part of curriculum planning for reading and information handling throughout the whole school"(p52)

Also includes a couple of good examples of library initiatives for primary school children (pp90-91)

Library and Information Services Council (Northern Ireland) (1995) Libraries in Primary Schools Guidelines for Good Practice. Co Antrim: Library and Information Services Council (Northern Ireland).

Abstract: These are Guidelines to develop quality and relevant resources for the Northern Ireland curriculum and as a Code of Good Practice to enable schools to develop their libraries to meet the changes in teaching and learning. Includes library policy, accommodation, staffing, learning resources, organisation, information skills, reading and literature promotion, monitoring and evaluation, and appendices of a policy framework, checklist for using the SLS or Education Library Service and a bibliography.

Library Association (2000) *The Primary School Library Guidelines*. London: Library Association. http://www.la-hq.org.uk/directory/prof_issues/primary.html [25/02/02].
Abstract: Provides guidelines on all aspects of running a school library: developing library policies, library accommodation, staffing, budgets and funding, resource selection, library organisation, computerised management systems, literacy, information literacy and library evaluation. The role of the school library services is prominent, and users of the guide are encouraged to exploit their services throughout. With reference to staffing, it is recommended that the library is staffed by a full time professional librarian, although other staffing options are included (professional librarian shared by a group of schools, and teacher as library co-ordinator, line managed by the headteacher) (p5). Recommendations for resources levels are also made: "13 items per pupil (based on National Curriculum coverage and fiction reading books per pupil); that 10% of existing stock is replaced annually; 2400 as the minimum number of resources for a school regardless of pupil numbers" (p6) Use of a computerised library management system is also recommended "An efficient computerised library management system will enhance the effectiveness of the library" (p10, 11). As might be expected, information literacy is emphasised and an integrated approach recommended "The school must adopt a whole approach to teaching information skills, so that skills are not taught out of context but are reinforced in the classroom and the library as the curriculum requires" (p13). The section on evaluation is also particularly useful, providing suggestions for quantitative and qualitative performance measures, for both service input and service output. It is also suggested that "the school is evaluated on a regular basis and that reports are shared with the headteacher, other staff, governing body and parents" (p15). The International Federation of Library Associations and Institutions and the UNESCO School Library Manifesto is also reproduced. In this document it is suggested that "school libraries must have adequate and sustained funding for trained staff, materials, technologies and facilities"(p22) and that "the school librarian is the professionally qualified staff member responsible for planning and managing the school library, supported by as adequate staffing as possible, working together with all members of the school community, and liaising with the public library and others" (p23)

Library Research Service and Colorado Department of Education (1999) *Proof of the Power: a look at the results of the Colorado Study ...and more! Fast Facts 164*
http://www.lrs.org/html/fastfacts/fast_facts_1999.html.
Abstract: A summary of the findings from the Library Power studies, probably authored by Keith Lance who is named as the contact for the issue.

Loertscher, D.V. (1996) *Collection Mapping in the LMC: building access in a world of technology*. Castle Rock, CO: Hi Willow Research and Publishing.

Loertscher, D.V. (1988) *Taxonomies of the School Library Media Program*. Englewood, CO: Libraries Unlimited, Inc.

Loertscher, D.V., Bowie, M.N. and Ho, M.L. (1987) 'Exemplary Elementary Schools and Their Library Media Centers: a research report. *School Library Media Quarterly* 15 (3):147-53.
Abstract: Reports on a study which examined the status of library media services in 209 public elementary schools across the US (49 out of 50 states) that had been recognised as exemplary following a survey (including a visits) conducted by the US department of education. The study sought to answer the questions "Are library media centers in 'exemplary' elementary school exemplary? What 'cutting-edge' services and programs do these library media centers provide? What is exemplary about the library media programs in these schools? What services would the library media specialists in these schools like to add or improve?" (p147) A questionnaire survey was sent out to the 209 schools with a 70% response rate. Demographic data strongly suggested that students at the schools could primarily be classified as "mostly white students from middle- to upper-middle-class homes"(p148). Spending on library materials had increased over the last 5

years in 44% of the schools and remained steady in 43% which led the authors to conclude that exemplary schools had been faring better than most schools in maintaining/improving expenditures for library media programs. Staffing levels in the schools were reported as 'disappointing', the authors having expected (from the conclusions of previous research conducted) that exemplary schools would show high levels of professional staff. Less than half of the schools had a full-time professional and at least one clerk, a fifth of the schools had only part-time professional help and 12% had no professional library staff at all. In terms of library services, the authors report a positive picture in the area of instructional development. They highlight the fact that 47% of the respondents in these exemplary schools regularly consult with teachers in advance of unit presentations, and 10% conduct exit evaluations. They see these two aspects of instructional development as key in enlarging the instructional role of media specialists. In the area of 'other services to teachers' it is reported that 90% of respondents regularly provide temporary classroom collections of materials in addition to maintaining centralised resources, and a further 9% will do this occasionally. Many of the respondents also offer in-service training in the effective use of media center materials and equipment (37% regularly, 43% occasionally). Under the next category, 'services to students' it was found that storytelling and reading activities were regular activities in 89% of the schools; 62% provide regular opportunities for students to pursue individualised activities in addition to classroom group activities (a figure the authors considered low). In terms of the library collections, 94% respondents returned the highest rating possible regarding the variety of their collection, 92% for the general quality of their collection, 88% for currency and 77% for quantity. It was however pointed out that open-ended questions revealed that many of these respondents would indicate that their collections were out of date and lacking in quantity. Following further analysis it was concluded that characteristics showing a significant relationship to a greater variety of services were: affluence of the school, family income, number of professional library media specialists, total size of library staff. Further open-ended questioning is reported upon and conclusions reached about the benefits of staffing levels and professional status.

The authors state that the "single most important variable in an excellent library media program" was the presence of a full-time professional and a full-time clerical person: the FTE number of professional library media specialists predicts the frequency of "cutting-edge" services; the FTE number of total staff predicts the frequency of library media services. Instructional development of teachers, integration of the materials of the media center into the curriculum and flexible scheduling declines as the number of library personnel are reduced. Finally, while it was recognised that not all excellent schools had excellent library media programs, there was some degree of overlap. RESERVATIONS/OBSERVATIONS - No indication of how figures are compared with 'the average school', no control group.

Machet, M.P. and Olen, S.I.I. (1997) Literacy Environment of Pupils in Urban Primary Schools. *South African Journal of Library and Information Science* **65** (2):77-84.

Abstract: This research does not focus on the impact of the school library on literacy, but does provide recommendations for the library based on the findings of the research.

In depth interviews were carried out with 25 primary school children to establish their literacy environment e.g. were they likely to have a quiet place to read; did they have access to radio/tv; how many books did they have in their home; what jobs did their parents have; were they a member of a public library; did they observe their parents reading. The literacy environment profile of each child was compared with their reading test results. It was found that there were no marked differences between the literacy environments of those who scored well and those who had done badly. However, it was concluded that as children were likely to come to school without preliteracy skills (given the generally unfavourable literacy environments), the presence of the library and librarian in schools was essential to help motivate children to read and encourage the development of a reading culture. It was pointed out that the librarian "has the expertise to select appropriate books, for both block loans to classroom and for individual pupils. The teacher-librarian can keep a proper record of each pupil's reading, motivate good readers to read more challenging books and help the language teachers to motivate pupils to read by using a range of reading promotion activities.

- Maclean, E. (1993) Library Matters. *The School Librarian* **41** 141-2.
 Abstract: Description of library and collection development in a primary school library in Scotland. No formal evaluation is reported upon, and the article is primarily a description of the process.
- Mancall, J.C., Aaron, S.L. and Walker, S.A. (1986) Educating Students to Think: the role of the School Library Media Program. *School Library Media Quarterly* **15** (1):
http://www.ala.org/aasl/SLMR/slmr_resources/select_mancall.html [08/03/01].
- Markless, S. and Streatfield, D. (2000a) Becoming More Effective: some choices. *Education Libraries Journal* **43** (3):5-18.
- Markless, S. and Streatfield, D. (1994) Beyond the 'Library Health Check': assessing the role of primary and secondary school libraries in supporting teaching and learning. *Education Libraries Journal* **37** (1):13-32.
- Markless, S. and Streatfield, D. (2000b) School Library Services are Alive and Well? *School Libraries in View* **13** 13-18.
- Markless, S. and Streatfield, D. (2000c) School Library Services: from survival to growth? (Library and Information Commission Report no49). Twickenham: Information Management Associates.
 Abstract: A project conducted for the Library and Information Commission which aimed, primarily, "to assess the key factors leading to the recent survival and growth of Services, especially fully delegated ones, and the extent to which these and other factors are likely to apply in the future." (pi). Data was gathered through case study visits to 15 Schools Library Services, three management reviews by project team members, and a questionnaire survey across England and Wales. Additionally, the project team hosted an invitation seminar to review emerging findings, and disseminated the results through a range of methods. Sections of particular interest in the light of this literature review include, staffing and staff development (p9); provision of services (including targeting of services by sector) (p10-14); discussion of the placing of the SLS, education versus the library sector (p23); and discussion of key skills required by SLS staff, including knowledge of government educational policy and the curriculum (p31). There is also a useful section on assessing impact which shows that while SLS generally measured effectiveness, they often concentrated on service performance rather than impact. Ways in which this situation could be improved upon are discussed (p39-45).
- Martin, M.O. and Morgan, M. (1994) Reading Literacy in Irish Schools: a comparative analysis. *The Irish Journal of Education* **28** 1-101.
 Abstract: A special edition of the Irish Journal of Education which was devoted to findings of the IEA Reading Literacy Study and related research. The IEA survey (see Elley, 1992) looked at a range of factors that had the potential to impact on the reading literacy of 9 and 14 year olds. The complexity of assessing the impact of these factors is acknowledged. However, analysis revealed that a large school library consistently relates to high mean achievement (both before and after controls for social and economic development were applied) (p88-89).
- McGregor, J.H. (1999) Implementing Flexible Scheduling in Elementary Libraries. In: Lighthall, L. and Howe, E., (Eds.) *Unleash the Power! Knowledge - Technology - Diversity: Papers Presented at the Third International Forum on Research in School Librarianship, at the 28th Conference of the International Association of School Librarianship (IASL) (Birmingham, AL: November 10-14, 1999)*, pp. 11-21. Seattle, Washington: IASL
 Abstract: Primary focus is on what makes scheduling work, but does also include anecdotal evidence from interviews with librarians, principals and teachers in six elementary schools of the outcomes of flexible scheduling (e.g. impact on learning). Findings relevant to the purpose of this

literature review include:

- the personal qualities of the school librarian are considered to be important in the success of flexible scheduling implementation. Most commonly cited characteristic was flexibility but energy, a sharing and facilitating mindset, competence, persistence, awareness of national trends and best practice, a sense of humour, enthusiasm, and an ability to deal with many different kinds of people were also considered to be important.
- students were described as more motivated and excited about learning as a result of the flexible scheduling initiative
- it was suggested that students had changed from passive recipients of knowledge to being active learners
- the library was considered to be a primary source of information rather than an afterthought.

McNew, C. and Lankford, M. (2001) Texas School Libraries: standards, resources, services, and students' performance. *Texas Library Journal* **77** (2):5-9.

http://www.txla.org/pubs/tlj77/TLJ77_2.PDF [17/12/01].

Abstract: Article discussing Texas School Libraries: standards, resources, services, and students' performance research report covered in more detail (Smith, Ester, 2001). This is a useful summary of the report.

Objectives of the research:

Examine school library resources, services, and use on the basis of the "School Library Programs: Standards and Guidelines for Texas" and determine the need for updating these standards and guidelines so that they better serve communities across the state.

Determine the impact of school libraries on student performance as measured by the percent of students who met minimum expectations on the reading portion of the statewide-standardized test, the Texas Assessment of Academic Skills (TAAS).

Highlight library practices in the best performing schools.

Standards are available on <http://www.tsl.state.tx.us/ld/schoollibs/standards.html>

McQuillan, J. (1997) The Effects of Incentives on Reading. *Reading Research and Instruction* **36** (2):111-125.

Abstract: "examines the available evidence on the effect of incentives on reading in school and public library programs for elementary and secondary students" (p111) The study examined the theoretical basis behind the subject and studied evidence from empirical research on the effectiveness of reading incentives (in school and public lib. programs). Concluded that none of the studies showed any clear positive effect on reading comprehension, vocab, or reading habit *that could be attributed solely to the use of rewards and incentives*. Even suggests that incentives, in the long term, may lead to less reading not more (due to the 'short circuiting effect on the motor controlling internal motivation).

McQuillan, J.L., LeMoine, N., Brandline, E. and O'Brien, B. (1997) The (Print-) Rich Get Richer: library access in low- and high-achieving elementary schools. *The California Reader* **30** (2):23-25.

Moore, P. (2000) Primary School Children's Interaction with Library Media: information literacy in practice. *Teacher Librarian* **27** (3):

http://www.teacherlibrarian.com/pages/27_3_feature.html [22/11/01].

Abstract: Three factors are identified as being of central concern in developing information literacy: the nature of information literacy itself; teachers' understanding of that concept; and the conceptions of inexperienced information users. Full details of the study are not available in this article, but it is indicated that it consisted of a survey of teaching staff in four elementary schools which investigated their interpretation of information skills, resource-based learning, and the role of the library in teaching and learning. None of the schools had full-time staff in their libraries. A selection of the staff surveyed also attended workshops on teaching information problem-solving to children between 7 and 11. Two weeks after these workshops, children were observed as they engaged in information handling tasks. Observational data was discussed with the participating

teachers. Some key points include: the majority of the respondents agreed that information skills were essential to lifelong independent learning, although definitions of the skills varied (it was therefore concluded that in some schools teaching of library skills might be seen as sufficient for promoting information literacy); only 57% of teachers always had clear objectives or outcome measures for resource-based learning; and, while nearly all teachers expected children to use the library for learning, only one school indicated the view that the absence of a library would have an equal impact on teaching and learning. A number of anecdotal events are described that provide an illuminating insight into the reality of the exploitation of information skills in the schools.

Moore, P. ([1997]) Teaching Information Problem-Solving in Primary Schools: an information literacy survey. In: Anonymous *63rd IFLA General Conference, Conference Programme and Proceedings (Copenhagen, Denmark, Aug 31st - Sept 5th, 1997)*, [IFLA]

Morrison, M. and Scott, D. (1994) Libraries for Learning: approaches to book resources in primary schools (Library and Information Research Report 97). Letchworth: British Library.

Abstract: A British Library report examining the contribution that a the primary school library can make to the curriculum. Research was conducted using both quantitative and qualitative methods: a questionnaire survey distributed to all primary schools in two English local education authorities (LEAs) and case studies in two schools, one from each LEA. The use of resources in classroom and library settings was investigated, and the pedagogical role of classroom teachers with regard to use of library was explored. A way forward is suggested and focuses on the need to forge links between libraries and learning, while taking account of evidence pointing to the fact that not all primary schools have the same opportunities and resources.

Muller, B., Corser, P. and Jack, J. (1995) An HMI Calls... and causes a rethink in research methods. *School Librarian* **43** (4):134-5.

Abstract: Describes a change in the use of the school library. Originally library use was largely restricted to "clearly guided quizzes requiring one-word answers" (p134). A decision was made to use the library for essay research, the pupils would now have to find their own information on an unknown topic, with a greater emphasis placed on developing their library skills. Two teacher viewpoints on the new approach are provided.

Murray, J. (2000) How School Librarians Can Contribute to the Personal Growth of Students with Disabilities. *Orana: Journal of School and Children's Librarianship* **36** (2):5-11.

Abstract: Journal article reporting on the case study aspects of a project conducted in Australia. The case studies were conducted in a total of 14 primary and secondary schools, although it is not specified how the sample was broken down between the two sectors. However, it is stated that the schools were selected from a range of socio-economic areas within the metropolitan districts of Sydney and Melbourne. The study was conducted over four years and each school was visited several times in this period. Interviews were conducted with a range of people in each school: library staff, special education staff and students with disabilities. Observations of the librarian at work were recorded. The author refers to Hopkins (1989) and the six factors she identified as contributing to positive self-concepts in students: opportunities for collaboration or teamwork with other students; independence; success; a positive and welcoming learning environment; challenge in learning situations and a feeling of personal value or acceptance. Murray found that the case study libraries did contribute to positive self-concepts in some of these areas, namely: providing opportunities for collaboration and teamwork; exercising independence; creating perceptions of value and independence; and providing a welcoming, comfortable and accessible environment. It was also found that those librarians who had good managerial and communication skills were the ones who delivered services successfully to students with disabilities. It is suggested that the development of learning support centres which are an amalgamation of special education, information technology support and school library services would be a positive step in involving the school librarians in the personal growth of disabled students. RESERVATIONS/OBSERVATIONS - The details of the methodology are not provided

in full, particularly in terms of the observation work.

Murray, J. (1999) An Inclusive School Library for the 21st Century: Fostering Independence. In: Anonymous *65th IFLA Council and General Conference, Conference Programme and Proceedings (Bangkok, Thailand, August 20-28, 1999)*, IFLA

Abstract: See Murray, 2000

New Visions for Public Schools, N.Y. and Fund for New York City Public Education (1996) *School Libraries... Unfinished Business: a report on New York City's elementary school libraries*. New York: [New York City Public Education].

Novljan, S. (1998) Pupils' Reading is Better in Schools with a Librarian: evidence from Slovenia. *Journal of Research in Reading* **21** (3):228-31.

Abstract: Discussion of the Slovenian experience of the international IEA study (Elley, 1992) concluding that the librarian is significant in the successful functioning of an extensive library collection. Teachers, however, showed no preference for a qualified or unqualified librarian when requiring assistance.

Oberg, D. (1999) A Library Power Case Study of Lakeside Elementary School, Chattanooga, Tennessee. *School Libraries Worldwide* **5** (2):63-79.

Abstract: This journal reports on a case study of Lakeside Elementary School, Chattanooga, Tennessee, which focuses on the impact of the Library Power Program on the school. Primarily a description of how the program was successfully implemented, evidence of success and the reasons behind it are also discussed. Impact on academic achievement is illustrated through improvements in TCAP results (Tennessee Comprehensive Assessment Program). Through comparison of library use statistics with TCAP results for each classroom, the librarian was able to illustrate that reading and reference scores improved as library use increased. It is also noted that there "was evidence of changes in teachers' practice and belief" (p73). While it is acknowledged that other factors (e.g. leadership roles of principal, librarian, teachers; reform efforts already in place; the school's culture and the coherence of Library Power with other reform initiatives) have a key role in school achievement, it is also emphasised that without the benefits brought by Library Power, these key factors would have had less of an impact.

RESERVATIONS/OBSERVATIONS - 1. As a case study of just one school, findings are not fully generalisable; 2. As acknowledged in the article, it remains difficult to assess to exactly what extent improvements in pupils' attainment and changes in teaching styles are attributable to the implementation of Library Power.

Pojman, P. (2000) Standards and Guidelines for Elementary School Libraries: a current overview. *Catholic Library World* **71** (1):39-46.

Abstract: Summarises statistical data, largely concerning collection development and the need for certified staff, from Information Power, Standards for Missouri School Library Media Centers, Library Media Center Standards (Texas Catholic Conference), School Library Programs: Standards and Guidelines for Texas, Archdiocese of Mobile Library Media Center Handbook, Policies, Principles and Standards for Elementary Schools (Southern Association of Colleges and Schools); out of the 5 sets of standards summarised, 3 indicate that each school library should have a certified member of staff (the others make no mention of staffing, concentrating on book:pupil ratios).

Putnam, E. (1996) The Instructional Consultant Role of the Elementary School Library Media Specialist and the Effects of Program Scheduling on its Practice. *School Library Media Quarterly* **25** (1):43-9.

Reid, D. (1997) The Means By Which Primary School Teachers Select Fiction: a survey in Lothian schools. The Robert Gordon University. MA Library and Information Studies

dissertation.

Abstract: Investigates how primary teachers select fiction resources for their pupils. Of particular interest to this review is the discussion on teacher support needs in terms of in-service training and how the school library service can support them.

Resource: the Council of Museums Archives and Libraries (2001) Inspiring Learning: a Framework for Access and Learning in Museums, Archives and Libraries. Resource. <http://www.resource.gov.uk/action/learnacc/insplearn.pdf> [06/12/01].

Abstract: Draft standards for museums, archives and libraries. The document is presently being piloted in a variety of institutions including school libraries.

Rogers, S. and Needham, S. (1999) Birmingham Schools Library Service: Bookflood Project. *School Librarian* 47 (4):182-183.

Abstract: Very short article reporting on the impact of the Bookflood project where schools were provided with 250 new books. The way that each school used the Bookflood varied, and evaluation methods also varied to some extent but positive results were widely reported. Methods of evaluation included: attitudinal surveys completed by staff and pupils; comparison of reading text scores; written evidence from parents and staff; anecdotal evidence from parents and staff; visits to the schools from the schools library service which included talks with pupils and teaching staff about progress; a final report from each school; an end of project meeting and a review produced and distributed at the end of each phase of the project by the schools library service.

Ryan, M. (1995a) The Learning Space Librarians and Libraries in the Primary School. Buckinghamshire: Focus in Education Productions and Buckinghamshire County Council Library Service.

Abstract: Training pack based on a project in which three Chartered Librarians were given two year contracts to work in primary schools (they also spent one day a week with the SLS). The pack was designed to show the contribution that a school library can make to the curriculum of a primary school. The project examined these three schools and also the role of the SLS as a provider of resources and ideas. The aim of the project was to demonstrate the improved quality of education that can be achieved by the appointment of a Chartered Librarian in a primary school, in particular the contribution made to:

- the promotion and effective management of library resources
- the development of the role of the library in the curriculum
- the encouragement of reading and support programmes of study
- the implementation of an information skills curriculum.

The booklet does not evaluate the project but gives practical hints and examples for practitioners contemplating more extensive use of the primary library. Bibliography included, see also Ryan (1995b).

Ryan, M. (1995b) Light Shining in Buckinghamshire: Chartered Librarians in Primary Schools. *The School Librarian* 43 (2):51-53, 56.

Abstract: Reports on a two year pilot scheme which appointed 3 chartered librarians to primary schools in Buckinghamshire, CLIPS (Chartered Librarians In Primary Schools). The scheme aimed to rate the effectiveness of this model in terms of: developing the role of the library in the curriculum; improving management and promotion of library resources; implementing an information skills curriculum, encouraging reading. The development of a range of performance measures for evaluating library effectiveness in the primary school context is also discussed.

Salmon, S. and others (1996) Power Up Tour Library: creating the new elementary school library program. Libraries Unlimited.

Abstract: A useful resource providing guidelines for school librarians implementing the ideas behind Library Power

Shannon, D.M. (1996) Tracking the Transition to a Flexible Access Library Program in Two Library Power Elementary Schools. *School Library Media Quarterly* 24 (3):155-63. http://www.wallacefunds.org/publications/pub_library/articles/slmq_track.htm [10/11/01].

Abstract: The aim of the study described was to explore how stakeholders in two Library Power elementary schools in Kentucky reacted to the move from fixed to flexible library access within their schools and thereby identify both effective practices and challenges to implementing such programmes. The research was ongoing at the time of reporting and a check of the author's own bibliography on flexible scheduling does not reveal a final report [<http://www.libsci.sc.edu/shannon/flexbib.htm>]. The key research questions were:

- What perceptions and expectations of a flexible access library programme do the various stakeholders have? How do these perceptions change over time?
- With the implementation of a flexible access library programme: how do teachers, students and other school community members use the library media center differently? what new interactions between teachers and the school library media specialist evolve? how does the library media specialist change? what challenges are encountered with the implementation of a flexible access library programme?

A 'naturalistic case study' methodology was used. In the phase of the study reported upon, data was gathered through interviews with teachers, library media specialists, and administrators; field notes from observations and meetings attended (at one of the schools); documents collected at both sites. Field notes and interview transcripts were coded for topics and issues.

Concerns (largely teachers concerns) were identified and included: loss of teacher planning time, finding time to cooperate with the librarian; that without scheduled weekly library lessons students would not acquire information skills. *Solutions* included: Communication and effective public relations through an advisory committee and a training team (made up of teachers) and promotion by the librarians; Support at school and district level, principal, extra clerical staff; adequate resources; professional development, the librarians found that teachers who had been on library power training sessions to be more open to collaboration; school climate. Staff needed to be shown the relevance of the programme Flexible scheduling requires the librarian to take on a new role, to become more of a facilitator

RESERVATIONS/OBSERVATIONS - This article explores the implementation of a new programme (flexible access) rather than evaluating the impact of that programme on learning, teaching, etc - it is stated that this study is not an evaluation of the library power programme. However, it is useful as model of good practice.

Smith, E.G. (2001) Texas School Libraries: standards, resources, services, and students' performance. [Texas]: EGS Research & Consulting for Texas State Library and Archives Commission. <http://www.tsl.state.tx.us/ld/pubs/schlibsurvey/index.html> [23-10-01].

Abstract: This study, conducted in Texas with funding from Texas State Library and Archives Commission, investigated the Texas school library standards and had three objectives:

- to examine school library resources, services and use on the basis of the School Library Programs: Standards and Guidelines for Texas and determine the need for updating these standards and guidelines so that they better serve communities across the State;
- to determine the impact that school libraries have on student performance as measured by the percent of students who met minimum expectations on the reading portion of the state-wide standardised test, the Texas Assessment of Academic Skills (TAAS);
- to highlight library practices in the best performing schools.

Data were collected from a random sample of 600 Texas school libraries and a variety of other state statistical databases and the study employed more than 200 school, library and community variables in examining the relationship between libraries and TAAS performance. The findings demonstrated a higher TAAS performance at all educational levels in schools with librarians than in schools without librarians. The study showed that socio-economic variables such as the percentage of ethnic groups and economically disadvantaged students explain most of the variance in performance. However, the library variable explained a smaller, but still significant, portion of performance variance. The library variable was also found to be more significant than

school variables. The library variables revealed a different emphasis between the three school levels: elementary - volumes purchased, operational expenditures per student, library internet connection, software packages; middle/junior - collating material for instructional units, providing information skills; and high - library staff, staff hours, hours of library operation, number of volumes, current subscriptions, planning instructional units with teachers, providing staff development to teachers. While causal relationships cannot be unequivocally proven through correlational studies such as this one, nevertheless recommendations may be made by combining these results with experiences of librarians to consider future course of action. This study demonstrated that libraries can play a very special role in enriching the experience of students from economically disadvantaged backgrounds who may need additional help to develop skills to succeed.

This study is very significant in taking the Lance studies forward and giving a clear picture of methodology. It was prompted by standards already in place.

SOEID/SCCC/SLA/SLIC (1999) Taking a Closer Look at the School Library Resource Centre: self-evaluation using performance indicators. SOEID/SCCC/SLA/SLIC. <http://www.svtc.org.uk/sccc/closer/library.pdf> [17/12/01].

Abstract: This document identifies those indicators from How good is our school? (published by SOEID in 1996) as most relevant in the context of self-evaluation of school library resource centres. The indicators are offered as a tool kit for senior management, teaching and library staff to use in evaluating the quality and effectiveness of their library resource centre. The indicators exemplify best practice and outline a framework of provision which schools and authorities could work towards.

Streatfield, D. and Davies, R. ([1995]) Library Power: the library power survey report on libraries and young people. London: Library Association.

Abstract: Reports on research commissioned by the Library Association into the opportunities open to children to use public and school libraries in 100 UK locations. For each location a primary/middle school and/or a secondary school was selected for study. Public libraries serving the same locality were selected by asking the school children which (if any) libraries could be reached within 15 mins walk. The same question was asked of the public library services and found that the responses corresponded.. Questionnaires were sent to schools (for librarians/teacher with responsibility for the library and pupils), public libraries and schools library services. It was concluded that children do have very different opportunities to use libraries depending on where they happen to live. Evidence was found that indicated some public libraries were developing their services for children and making new links with local schools. Another positive finding showed that many schools had a library development plan (although it is conceded that schools with plans for the library could have been more likely to respond to the questionnaire). While there are some limitations with generalising the findings of the study as a result of the methods for sample selection, some interesting points are made.

Streatfield, D. and Markless, S. (2000) Are Schools Library Services Equipped to Survive in the Age of Information? *Information Research* 5 (4): <http://InformationR.net/ir/5-4/paper84.html> [06/09/01].

Abstract: This article provides an insight into the current state of the Schools Library Services and the challenges they face. The aim of the project on which it reports was to assess the key factors behind the survival and growth of School Library Services (SLS) provision at a time of uncertainty due to the impact of the government 'Fair Funding' legislation. The project was conducted in three main phases: case studies of 15 SLSs; a questionnaire survey across all public library authorities in England and Wales; a preliminary review of the issues through a invitation seminar. Findings were summarised as follows: there were 23 authorities where there was no SLS; most services were not in a position to offer evidence of the effectiveness of their provision in terms of government or schools agenda (e.g. school improvement, enhancement of student learning, social inclusion, contribution to economic regeneration, improved access to electronic information) though it is suggested that work carried out to develop impact and achievement

indicators could provide a solution in this area; overall, SLSs were resilient to local government cuts, although some SLSs seemed to show little awareness of the potential changes which would follow Fair Funding legislation. Finally, it was concluded that future success is likely to depend on active promotion and marketing and willingness to meet changing demands. See entry for project report, Markless & Streatfield (2000c)

Streatfield, D. and Markless, S. (1994) *Invisible Learning? The Contribution of School Libraries to Teaching and Learning* (British Library Research and Development, Library and Information Research Report 98). London: British Library Research and Development Department.

Abstract: The aims of this project include: to identify the main elements of the school library contribution to the learning and development of pupils and staff; to investigate different models of school library or other forms of resource provision, in order to determine which combinations of resources, staffing and activities are effective in supporting learning; to prepare performance indicators as a help in assessing the effectiveness of school libraries and suggest strategies for adapting the performance indicators to meet the requirements of the particular schools and LEAs; to identify and describe examples of good practice; and to make suggestions to support the improvement and future development of school libraries. Multi-site case studies (3 primary schools and 3 secondary schools) and workshops for invited experienced library practitioners were used to gather data. Case studies combined interviews with staff and pupils, library and classroom observation, and analysis of school development plans and other relevant documentation. Participants of the first workshop were invited to share ideas of what makes an effective school library and how effectiveness can be assessed. Participants of the later workshops provided feedback on findings to date and explored ideas about developing performance indicators. It was found that "the single most important factor leading to effective use of libraries [...] was a positive attitude by teachers". It is also suggested the library managers also have an important role in encouraging a positive attitude in teachers, however, the importance of support from senior managers of the school (e.g. time and financial resources). Teachers, and many students, indicated that they felt that the library did make a significant difference to teaching and learning, although models of service provision varied widely, particularly at secondary level, and teachers' perceptions of how they could support their teaching varied correspondingly. A series of recommendations are drawn from the project for school managers, school library managers, school library services staff and OFSTED inspectors.

Streatfield, D., Tibbitts, D., Swan, R., Jefferies, G. and Downing, R. (2000) *Rediscovering Reading: public libraries and the national year of reading*, Library and Information Commission Research Report 30. London: Information Management Associates.

Tallman, J.I. and Tastad, S. (1998) *Library Power: a potent agent to change in media programs*. *School Libraries Worldwide* 4 (1):33-49.

Abstract: This journal article reports on the changes made as a result of the Library Power initiative in two schools in a large urban district. Focus is on the instructional partner and teaching roles of the librarian. The key areas of investigation were: 1. whether schools could make systematic changes in the way the curriculum planning took place in the school, particularly in reference to the role of the Library Media Specialist (LMS) (would there be a noticeable change in the way the curriculum units were planned and taught, would there be a noticeable change in the way the staff views the LMS as a planning and teaching partner, would there be a noticeable change in the kinds of activities designed for student learning); 2. how long it would take to institutionalise these changes in the school. Individual interviews with LMSs and principals, and focus interviews with teachers were carried out at various intervals over the three years of the project. The project team also acted as participant observers in the library media centres for a period of time in each year. The researchers identified some very positive changes across the school in terms of: the attitude to the role of the LMS; the nature of collaboration between the LMS and the rest of the school (particularly in instructional partner/teacher roles); teaching and learning styles; higher use of resources; increased opportunities to teach information literacy

skills in a fully integrated way; LMS status; and the LMSs' own attitude to their role. E.g. "we observed that the staff of these schools learned how to create units that offered students more active learning and development opportunities for their personal research processes." "the program brought changes in the environment by strengthening the place of the media center in student learning as well as strengthening the role of the LMS as a partner in curriculum design and teacher of integrated information literacy skills." "At both schools, the role of the LMS deepened into a truer partnership with the classroom teachers in each school. One of the LMSs became the central facilitator and leader of interdisciplinary planning for all grade-level sessions held by her faculty. The other LMS progressed from the role of isolated resource provider and from a peripheral place on the faculty to fuller participation in curriculum planning sessions and to a respected provider of resources." The researchers identified extensive staff development programmes on team building and collaborative planning as key to the success of the Library Power initiative.

RESERVATIONS/OBSERVATIONS - 1. As there were only two schools involved, it is difficult to generalise findings (this is conceded by the authors). 2. This study is strengthened by its longitudinal nature: observations and other data collection methods in the first year revealed that, in one school in particular the staff (particular the library media specialist) found the program rather overwhelming and little change in the behaviours and attitudes of the staff was observed. However, by the time that the series of visits in the second year were conducted, significant changes were noted.

Tallman, J.I. and van Deusen, J.D. (1995) Is Flexible Scheduling Always the Answer? Some surprising results from a national study. *School Library Media Annual (SLMA)* **13** 201-05.

Tastad, S. and Tallman, J. (1997) Library Power as a Vehicle for the Evolution of Change. In: Lighthall, L. and Haycock, K., (Eds.) *Information Rich But Knowledge Poor? Emerging Issues for Schools and Libraries Worldwide: Research and Professional Papers Presented at the 26th Annual conference of the International Association of School Librarianship (IASL) held in Conjunction with the Association for Teacher-Librarianship in Canada (Vancouver, British Columbia, Canada: July 6-11, 1997)*, pp. 153-161. Seattle, Washington: IASL

Abstract: For details, see the paper on the same project by Tallman and Tastad (1998)

[Texas State Library & Archives Commission] (1997) School Library Programs: Standards and Guidelines for Texas. <http://www.tsl.state.tx.us/ld/schoollibs/standards.html> [10/11/01].

Abstract: Standards and guidelines for school library programs produced by Texas State Library and Archives Commission.

Tilke, A. (1997) Advisory Roles of Schools Library Services in the United Kingdom. *The New Review of Children's Literature and Librarianship* **3** 11-37.

Abstract: A review of the literature concerning the roles of UK schools library services (SLSs). The article begins with a discussion of definitions of the SLS, then goes on to investigate structural models existing for the SLS (it is stated that the literature does not identify "a role model in terms of the most effective structure for such services"(p13) but also that "whilst the link with the education service is more logical, the '...most common pattern by far remains that SLS are managed by the public library service and funded by education'" (p14), quoting from: Investing in Children (1995)). The main body of the piece concerns the identification of the advisory roles of the SLS, i.e. contribution to curriculum development, contribution to developing learning/information skills, support for reading development, provision of training, and the evaluation of school libraries and formulation of guidelines for school libraries.

Todd, R.J. (1995) Integrated Information Skills Instruction: does it make a difference? *School Library Media Quarterly* **23** (2):133-138.

Todd, R. and McNicholas, C. (1992) Global Concerns: Local Strategies. Establishing a whole-school, cross-curricular information skills programme. *School Librarian* **40** (4):129-31.

van Deusen, J.D. (1993) The Effects of Fixed Versus Flexible Scheduling on Curriculum Involvement and Skills Integration in Elementary School Library Media Programs. *School Library Media Quarterly* **21** (3):173-82.

Abstract: An exploratory study undertaken in schools in nine Iowa school districts over a six week period. Study was ex post facto - author acknowledges that a weakness of this approach is a lack of control over independent variables, and attempts were made to reduce external factors as possible causes of variance through the selection of participants. Additional variables included the professional background of the media specialists and teacher planning style. Two dependent variables were examined: the curricular involvement of the media specialist (including the variables of gathering materials, designing instructional objectives, collaboration in the design of teaching/learning activities, delivering instruction with teachers, evaluating the unit); and the integration of library skills instruction with classroom teaching/learning activities. The 71 library media specialists contacted were categorised in one of two groups: fixed scheduling and flexible scheduling. All participants were selected to reflect a "best case scenario", rationale for this being that "if flexible scheduling made no significant difference under good conditions, it was unlikely to make a difference under less desirable conditions." (p174). Questionnaires were sent to the library media specialists and fifth-grade teachers and responses were received from 61 schools. It was found that: library media specialists in flexible scheduling settings were more likely to evaluate instructional units; that the combination of flexible scheduling and team planning resulted in more curriculum involvement from the librarian; no statistically significant relationship was shown between scheduling pattern and information skills integration, and no statistically significant relationship was shown between planning style and information skills integration.

van Deusen, J.D. (1996) The School Library Media Specialist as a Member of the Teaching Team: "insider" and "outsider.". *Journal of Curriculum and Supervision* **11** (3):229-48.

van Deusen, J.D. and Tallman, J.I. (1994) The Impact of Scheduling on Curriculum Consultation and Information Skills Instruction. Part one: the 1993-94 AASL/Highsmith Research Award Study. *School Library Media Quarterly* **23** (1):17-25.

Voaden, S. (1996) The Primary School Library of the Future. *Library and Information Briefings* **63** 1-9.

Abstract: Emphasis is on library policy formulation with much discussion devoted to ICT in the library. Does not draw from research apart from a brief summary of findings from the Creaser reports (particularly regarding spending). Does, however, mention the value of School Library Services and the value of the chartered librarian in the primary school, with particular reference to the new emphasis on ICT.

Webb, N.L. and Doll, C.A. (1999) Contributions of Library Power to Collaborations between Librarians and Teachers. *School Libraries Worldwide* **5** (2):29-44.

Abstract: One of the goals of Library Power was to increase collaboration between the librarian and teaching staff. This article concludes that Library Power was successful in achieving this goal and collaboration was identified in planning instruction and developing the collection. Data from over 400 schools was gathered through collaboration logs (completed by librarians) and questionnaires completed by principals, librarians and teachers. Analysis of data available indicated that there was evidence of an increase in collaboration, including those schools that had a history of collaborative behaviour. Collaborative logs supported the conclusion that library skills had been integrated into the curriculum at all grade levels.

Wheelock, A., Zweizig, D.L., Hopkins, D.M., Webb, N. and Whelage, G. (1999) Findings from the Evaluation of the National Library Power Program (executive summary): an initiative

of the DeWitt Wallace-Reader's Digest Fund. In: Anonymous New York: DeWitt Wallace-Reader's Digest Fund

Abstract: An executive summary of the Library Power evaluation.

Williams, D., Wavell, C. and Coles, L. (2001) *Impact of the School Library Services on Achievement and Learning*. London: Department for Education and Skills/Resource: The Council for Museums, Archives and Libraries.

Abstract: A critical literature review of the impact of school library services on achievement and learning in secondary schools.

Williams, D. and Wavell, C. (2001) *The Impact of the School Library Resource Centre on Learning*. Aberdeen: The Robert Gordon University for Resource The Council for Museums, Archives and Libraries.

Abstract: This research, carried out in secondary schools across Scotland, investigated the impact of a School Library Resource Centre (SLRC) on learning in its broadest sense. A two phase approach was used which consisted of: 1. Focus group discussions with teachers and pupils and interviews with librarians (to identify their perceptions of how the SLRC can contribute to learning); 2. Case study research using a framework developed in the first phase to identify learning experiences that the SLRC impacted upon, investigate indicators to be used as evidence of learning, and examine the process of assessing the impact of the SLRC on learning. The schools taking part in the research were largely self selected, being chosen from responses to a flier and brief questionnaire from the research team which sought participants for the study. Ten schools took part in the first phase and six of those also took part in the second phase. The learning experiences explored were grouped under four broad learning themes (currently used in evaluation guidelines for Scottish schools): Motivation, Progression, Independence and Interaction. Evidence for each of these areas was found across the case studies and potential indicators for each were developed during the course of the study. A number of useful methods for monitoring impact on learning in the SLRC were identified and a series of factors that were seen to influence effective learning are listed. In conclusion, the report highlights a number of key issues: the need for collaboration in planning and decision-making; the need for a greater understanding of information skills and mutual cooperation between librarians and teachers; and the importance of being aware of impact factors beyond the SLRC.

Zweizig, D.L. (1999) *Access and Use of Library Resources in Library Power*. *School Libraries Worldwide* 5 (2):16-28.

Zweizig, D.L. and Hopkins, D.M. (1999a) *Lessons from Library Power. Enriching Teaching and Learning. An Initiative of the DeWitt Wallace-Reader's Digest Fund*. Englewood, Colorado: Libraries Unlimited, Inc.

Abstract: Library Power was an initiative begun in 1988 when the DeWitt Wallace-Reader's Digest Fund invested almost \$45 million in elementary school libraries to improve the library programmes, teaching and learning. The goals of the funding were to use Information Power (AASL, 1988) guidelines to: encourage library use and expectations; create exemplary models of library programmes; strengthen the role of the librarian; encourage collaboration; demonstrate contributions that library programmes can make; and encourage partnerships. The funds were used to provide leadership at district level; professional development programmes to help the instructional roles of librarians and to encourage collaboration with teachers. The funds also helped build or strengthen existing library collections and improve facilities to enable multiple use. The participating schools provided a full-time librarian, funds for collection development, open access to the library throughout the school day and agreed to promote use and collaborative planning. Data gathered through surveys and case studies suggested that strengthening collections improved collaboration between librarian and teachers, ensured more curriculum relevance and increased teacher use. The collection was cited as a major contribution of the initiative by teachers and principals. The Library Power initiative encouraged major changes in

the way the library was used to support instruction but the move to flexible scheduling was challenging and more progress was thought to be required. Collaboration was interpreted in different ways by individuals and participating groups (principals, teachers and librarians). Librarians reported more participation in planning for instruction but the major focus of their role was still perceived to be on the identification and gathering of resources and the teaching of information skills. Teachers recognised collaborative planning, but tended to focus on the collection. Different levels of collaboration were identified and included working in parallel, working in a coordinated manner, working interactively, and full sharing of responsibility of the students' and their own learning. Library Power contributed to changes in the intended curriculum and rethinking the learning goals. It was also concluded that professional development was an important ingredient in achieving the goals of Library Power.

RESERVATIONS/OBSERVATIONS: 1. Unlike the statistical studies of Lance, this study examined qualitative data in depth and established the importance of school culture and ethos on the ability of staff to respond to changes and challenges; 2. While collaboration is shown to be important, and the training librarians took part in contributed to successful collaboration, turnover of staff and relationships within the school make any developments challenging to maintain; 3. Adoption of methods in the UK: the introduction of initiatives such as the Literacy Strategy, the Inspiring Learning framework (see Resource, 2001) or some form of self-evaluation standards could provide the basis for a similar longitudinal study in England, beginning with some form of baseline data collected prior to implementation. In the case of the Literacy Strategy a comparative study could be adopted with librarians who are actively involved and those who are not.

Zweizig, D.L. and Hopkins, D.M., eds (1999b) *School Libraries Worldwide* 5(2). 99.

Abstract: An issue devoted to the Library Power Initiative evaluation

DISSERTATIONS BIBLIOGRAPHY

Bell, M.D. (1990) Elementary School Climate Factors and Personality and Status Variables Associated with School Library Media Specialists Chosen by Classroom Teachers for Cooperation on Instructional Problems. North Texas State University. PhD dissertation.

Abstract: Research on which Bell and Totten articles (1991a, 1991b) were based. See Bell and Totten 1991b for further detail.

Bingham, J.E. (1994) A Comparative Study of Curriculum Integrated and Traditional School Library Media Programs: achievement outcomes of sixth-grade student research papers. Kansas State University. Ed.D dissertation.

Abstract: "Traditionally education in the United States has exhibited a great diversity of trends. The purpose of this study was to determine if the curriculum integrated library media program trend had a significant effect on the academic achievement of students. A comparison of the traditional library program versus a program that integrates the teaching of library skills with the classroom curriculum was conducted. A model of a research paper was designed using library and social studies curriculum outcomes as a guideline. This model was used to compare the two programs.

The data that were gathered and analyzed using a t-test showed a significant increase in the scores of students who had been taught via the integrated method, thus suggesting support for the trend to incorporate the curriculum integrated teaching method in the library media center. Furthermore, data comparing the amount of support the students needed while using the media center resources suggest that the students exposed to the integrated method of teaching had a slightly better level of understanding of media center usage than did the students from the traditional program."

[not viewed, abstract from Grover and Downs, 1999]

Chai, S.-C. (1996) A Study of Elementary School Student's Use of Libraries for Study and

Leisure Reading in Taichung City, Taiwan, the Republic of China. The University of Tennessee. Ed.D dissertation.

Abstract: "The purpose of this study was to determine the extent to which children in the intermediate and upper grades use the library for study and leisure reading in Taichung City, Taiwan, the Republic of China. Specifically, the study attempted to determine the differences in library use and leisure reading attributable to sex, grade level and geographical area.

Major conclusions were as follows: (1) elementary schools and teachers in more urban areas are not as likely to take their students to the school library as suburban schools and teachers; (2) as children become older, they have less opportunity and receive less guidance in using the school library; (3) the regular classroom teachers provide more help on children's use of the school library than do teacher-librarians; (4) school libraries need to attend more to student needs and interests in future acquisition; (5) while all children seem to have a very positive attitude toward using the library and leisure reading, girls have a higher interest than boys; (6) urban children's library skills are superior to those of suburban children; (7) children's book choices indicate a need for excitement and entertainment rather than a thirst for knowledge or a love of literature; (8) home and friends rather than libraries are children's greatest sources of reading materials; (9) urban children read a wider variety of materials for leisure reading than do suburban children; and (10) library selection groups need to have more open communication related to the appeal of comic books. In overview, the study indicated that crowded urban conditions in Taiwan seem to contribute to rather than detract from children's desire to read."

[not viewed, abstract from Grover and Downs, 1999]

Doiron, R.G. (1995) The Relationship Between Elementary Classroom Collections and the School Library Resource Center Program. The University of British Columbia (Canada). PhD dissertation.

Abstract: "The school library resource centre and the collection of trade books that classroom teachers gather in their classrooms were the focus of an exploratory, descriptive study designed around the first stages of an action research model. Little research had been done on how effective classroom teachers have been at acquiring trade books for their classroom collections, and on how teacher-librarians, working in partially or fully integrated school library resource centre programs, helped make trade books accessible to elementary teachers and students. A detailed description of the classroom collections led to the development of the Independent, Interactive and Integrated models for classroom collections. Each reflected a different concept of the classroom collection, its role in the literacy program and its relationship with the school library resource centre program. Indications were that a collaborative approach to trade book provisioning emerged in schools where the school library resource centre program was more fully integrated into the school curriculum. Details on a school-based/district-wide strategy to build a collaborative approach were given, as well as suggestions for a plan of action for individual schools and for further research to explore questions raised by this study."

[not viewed, abstract from Grover and Downs, 1999]

Dore, J.C. (1995) Implementation of Information Power: the experiences of state library media consultants in New England. University of Massachusetts. Ed.D dissertation.

Abstract: "The purpose of the study is to describe how four New England state library media consultants are working within their respective states toward the promotion of excellence in school library media centers through the implementation of the elements of Information Power, the current national school library standards.

Conclusions drawn from these data indicate that the state library media consultants, in spite of having no regulatory powers, work actively in a myriad of ways to promote quality school library programs. Their changing environment brought about by individual perceptions, economics, technology, and educational reform creates a challenge to each of these participants."

[not viewed, abstract from Grover and Downs, 1999]

Dumas, J.A. (1994) Continuing Education and Job Performance of School Library Media Specialists. Georgia State University. PhD dissertation.

Abstract: "The changing and expanding roles and responsibilities of school library media specialists make their participation in continuing education essential. The purpose of this study was to examine the importance of continuing education to the performance of school library media specialists. Continuing education delivery systems, topics, and motivational factors were studied.

School library media specialists perceived that meeting informally with other media specialists was the most preferred and the most effective delivery system for continuing education. A statistically significant correlation ($p < .005$) was shown between the degree of preference and the perceived effectiveness of each delivery system. A statistically significant difference ($p < .002$) existed between continuing education topics perceived important to job performance before and after participation in continuing education. The acquisition of new knowledge and/or skills was the main motivation for continuing education.

The findings of this study suggest that school library media specialists have strong preferences for certain continuing education delivery systems. These preferences also seem to be consistent with their perceptions of the systems that effectively influence job performance. Before school library media specialists participated in continuing education, topics they perceived important to job performance dealt primarily with using computers for managerial tasks; after participation, the topics were primarily in the area of providing services to clients. School library media specialists identified obtaining new knowledge and skills, an intrinsic motivational factor, as the most influential reason to participate in continuing education. These findings could help continuing education planners to develop continuing education programs that will, among other things, be attractive and effective for participants."

[not viewed, abstract from Grover and Downs, 1999]

Haines, R.M. (1995) Perceptions of Key Stakeholders on Factors Affecting Implementation of Standards for Maryland Public School Library Media Programs. University of Maryland College Park. PhD dissertation.

Abstract: "The purpose of this study was to assess the perceptions of key stakeholders on selected factors which may have influenced the implementation of standards for public school library media programs. This study was limited to the perceptions of the library media specialists and library media administrators.

Eight factors were identified that may account for the perceived level of implementation of the standards of media programs during the initial 4-year review cycle of the bylaw for school library media programs, COMAR 13A.05.04.01. The factors were clarity, implementation plans of the state and local education agencies, leadership, philosophies and policies, staffing, enrollment, and wealth.

It was concluded that five of the eight factors made a statistically significant difference on the implementation levels of the seven standards. Those respondents who held high perceptions about the five factors perceived the implementation levels to be high for the seven standards. The remaining three factors made a statistically significant difference on the implementation levels of selected standards. It was further concluded that state policy had a chance of success if it was directly related to an existing program at the local level. Policies were more likely to be implemented intellectually than they were financially. In summation, this study on the perceptions of key stakeholders contributes to the research of factors which are important to the policy implementation process."

[not viewed, abstract from Grover and Downs, 1999]

Hara, K. (1996) A Study of Information Skills Instruction in Elementary School: effectiveness and teachers' attitudes. University of Toronto (Canada). PhD dissertation.

Abstract: "The purposes of this study were to examine the effectiveness of instruction for acquiring necessary information skills at the elementary school level and to examine teachers' attitudes toward information skills instruction. For these purposes, this study involved two inquiries. The first inquiry investigated the significant differences in the performances of information skills in fourth, fifth and sixth-grade students comparing several instructional conditions: resource-based versus no-information skills; non-integrated versus no-information

skills; information skills (including both resource- based and non-integrated together) versus no-information skills, and resource-based versus non-integrated instruction. The second inquiry examined the characteristics of the teachers' attitudes toward information skills instruction for the teachers in resource-based, non-integrated, no-information skills approaches, and all teachers regardless of teaching method.

The first investigation demonstrated that resource-based instruction was the most effective model for acquiring information skills not only compared with no-information skills instruction, but also compared with non-integrated instruction. Although it was impossible to define the learning growth due to the cross-sectional design of the present study, it demonstrated that the highest learning growth during the three years from fourth to sixth grades was in resource-based instruction and the lowest was in no-information skills instruction. In the fourth and fifth grades, however, no significant differences were found. The second investigation demonstrated that teachers have entirely positive attitudes toward information skills instruction. Although there has been previous research showing that lack of support by the school or the principal negatively affects teachers' attitudes, this study showed that all the teachers regardless of teaching method have positive attitudes toward information skills instruction."

[not viewed, abstract from Grover and Downs, 1999]

Jones, A.C. (1997) *An Analysis of the Theoretical and Actual Curriculum Development Involvement of Georgia School Library Media*. Georgia State University. PhD dissertation.

Abstract: "The purpose of this study was to investigate the theoretical and actual curriculum development roles of practitioners in Georgia.

A significant difference between the perceived theoretical role and the perceived actual role was found for this sample of school library media specialists, indicating that respondents feel they practice these roles less often than they were trained to do. For most curriculum development roles, respondents perceived their theoretical involvement as important with no significant differences across the instructional levels. Secondary school respondents indicated a higher level of practice than the other levels on providing reference and supplementary materials, planning units with teachers, planning formally with teachers, and providing help with media center based units. Elementary school respondents reported a higher level of involvement with school curriculum committees than the other levels.

Pickard (1990) determined that a definite difference existed between the practiced curriculum development role of the school library media specialist and the role espoused in the literature. Results from the current study indicate that there is still widespread agreement among Georgia school library media specialists across all instructional levels that participation by them in the curriculum development process is of critical importance. Few practitioners, however, acknowledged involvement in curriculum development to any appreciable extent."

[not viewed, abstract from Grover and Downs, 1999]

Lai, Y. (1995) *The Attitudes of Public Elementary School Teachers and School Library Media Specialists in Three East Tennessee Counties Toward the Instructional Role of the School Library Media Specialist*. The University of Tennessee. Ed.D dissertation.

Abstract: "The purpose of this study was to determine whether or not teachers and school library media specialists differ significantly in their attitudes about the role of the school library media specialist as an instructional consultant. Specifically the study examined three different dimensions of attitudes: curriculum development, instructional development, and technology use. A questionnaire was developed for this study addressing the instructional consultant role of the school library media specialist.

Major conclusions, based on the findings, were the following: (1) There were no significant differences between teachers' and school library media specialists' attitudes regarding the library media specialist's role in curriculum development, instructional development, and technology use. (2) There were no significant relationships in the instructional consultant role of the school library media specialists when comparing teachers' attitudes to years of work experience, educational level and teaching specialities. (3) There were no significant relationships in the instructional

consultant role of the school library media specialists when comparing school library media specialists' attitudes to years of work experience, educational level and employment type." [not viewed, abstract from Grover and Downs, 1999]

Lin, S.-H. (1997) A Comparison of the Impact of Trained Media Specialists and Untrained Media Personnel in Junior Colleges in the Republic of China (Taiwan). Florida International University. Ed.D dissertation.

Abstract: "In the past three decades most of the junior colleges in Taiwan set up educational media centers to help students learn through the use of media which enables them to obtain optimum benefits in a short time. What are the roles the media personnel play in the media center? What responsibilities have they to bear in the center? What differences are there when a trained and untrained media personnel are presented in junior colleges media center in Taiwan? What do the trained and untrained media personnel feel toward the importance of each media service in the area of media center's administration, media production, specialized media duties, and the training of staff in media use? These are the questions addressed in this study. Through the study of the related literature and a survey conducted in the junior colleges in Taiwan, recommendations are offered to provide improvement of the services and training of media specialists in Taiwan that are appropriate for a changing work and environment. These recommendations are for media specialists to be formally trained to effectively serve the changing needs of school library media so as to make optimal use of media in the junior colleges." [not viewed, abstract from Grover and Downs, 1999]

Loertscher, D.V. (1988) Taxonomies of the School Library Media Program. Englewood, CO: Libraries Unlimited, Inc.

Abstract: Primarily intended as a guide for librarians, this book explores the role of the School Library Media Center, provides methods for pursuing that role, and offers suggestions concerning evaluation (both library media specialist evaluation and programme evaluation). Discussion and guidelines are supported by reference to research and examples of existing evaluation instruments are included in the appendix. A useful bibliography is also supplied. Chapters are included on the role of the Library Media Specialist, teacher, student and school administrator; resource-based teaching; library services; the 'warehouse' (the daily operations/collection development concerns of the school library); library programmes including library skills, research skills, information skills, technology skills, reading motivation etc.; and programme evaluation. A useful guide, and widely referenced.

Lumley, A.M. (1994) The Change Process and the Change Outcomes in the Development of an Innovative Elementary School Library Media Program. Kansas State University. PhD Dissertation.

Abstract: "The purpose of the study was to increase contextual knowledge about the change process and change outcomes which resulted from one elementary school's efforts to initiate, implement, and institutionalize a curricularly integrated, flexibly scheduled library media program. Findings indicated successful change in the library media program was dependent upon: (a) visionary leadership of the library media specialist and the director of library media; (b) quality site-based staff development, conducted by the library media specialist, principal, and respected teacher-leaders in the school; (c) a full-time library clerk to assist the library media specialist; (d) clearly communicated minimum requirements for teacher participation; (e) a curriculum planning process for curriculum integration led by the library media specialist; and (f) principal support. Change inhibitors included the additional time and work required to plan with the library media specialist and to practice curriculum integration and resource-based teaching, role conflict over the instructional development role of the library media specialist, and the need to train teachers new to the building in the practices of the program. Role outcomes included strong curriculum and instructional, staff development, and leadership roles for the library media specialist. Program outcomes included improved teaching and learning. Student outcomes included: (a) increased positive attitudes towards learning; (b) improved behaviour and increased responsibility; and (c) improved student knowledge bases, critical

thinking skills, and ability to learn independently.

Conclusions drawn from the study included: (a) a triumvirate building leadership team comprised of the library media specialist, the principal, and key teacher-leaders, and assisted by the district director of library media, made an effective team for forging change; (b) high quality site-based staff development and a strong staff development role for the library media specialist were essential for change; and (c) the staffing of a well-developed elementary library media program with one full-time library media specialist assisted by one full-time library clerk may not be adequate to sustain the roles and responsibilities incumbent in the program."

[not viewed, abstract from Grover and Downs, 1999]

Marcy, E.J. (1995) *Students' Voluntary Reading Choices and Selection Strategies in Third-Grade Classroom Libraries*. East Texas State University. Ed.D dissertation.

Abstract: "This study investigated how and why selected third-grade teachers foster voluntary reading and strategic book choices in classroom libraries. By including a female teacher and a male teacher, this study also investigated whether the teacher's gender influenced students' book choices and selection strategies.

Findings suggest that classroom libraries are a vital source of voluntary reading materials for students who seldom visit the school library. Findings also suggest that in their daily contact with students, teachers hold the key role in promoting voluntary reading. The findings further propose that by not providing book selection strategies, third grade teachers are missing an opportunity to capitalize on their students' maturing confidence as readers. These findings hold implications for educators in public schools, and for institutions which educate pre-service teachers."

[not viewed, abstract from Grover and Downs, 1999]

Martin, B.A. (1996) *The Relationship of School Library Media Center Collections, Expenditures, Staffing, and Services to Student Academic Achievement*. Auburn University. Ed.D dissertation.

Abstract: "The purpose of this study was to investigate the relationship of student academic achievement to factors related to the management and operations of school library media centers. The variables of school library media centers investigated were collections, expenditures for those collections, staffing levels, and services provided by the library media staff in selected school library media centers throughout school districts in Georgia.

A backward elimination multiple regression analysis indicated a relationship of school library media center staffing to student academic achievement, especially in the area of language arts (reading) at the high school level. School library media center collections, expenditures for those collections, and services were not significantly related to student academic achievement."

[not viewed, abstract from Grover and Downs, 1999]

McMillan, M.K. (1996) *The Effect of the Accelerated Reader Program on the Reading Comprehension and Reading Motivation of Fourth-Grade Students*. University of Houston. Ed.D dissertation.

Abstract: "The Accelerated Reader Program is a computerized reading management program which claims to motivate students to read more and a better quality of books, increase reading scores, build higher-order thinking skills, and foster a life-long love of reading. The purpose of this study was to describe the effect of The Accelerated Reader Program on the reading comprehension and the reading motivation of fourth grade students.

The results obtained in this study suggest that The Accelerated Reader Program did not improve the reading comprehension skills of the fourth grade students in this sample but did increase the reading motivation of the fourth grade students in this sample. Although the students who participated in The Accelerated Reader Program were motivated to read more and a better quality of books, their reading comprehension did not differ from those students who did not participate in The Accelerated Reader Program."

[not viewed, abstract from Grover and Downs, 1999]

McQuillan, J.L. (1997) *Access to Print and Formal Instruction in Reading Acquisition*.

University of Southern California. PhD dissertation.

Abstract: "This dissertation analyzed the effects of access to print and formal, meta-linguistic instruction on initial reading acquisition and subsequent development. It was proposed that variations in the amount of print available to children will affect the extent of literacy acquisition and development. Further, it was posited that formal, meta-linguistic instruction can facilitate early reading acquisition, but is not necessary for it to take place.

Four analyses were conducted. First, a meta-analytic, narrative review of studies on the acquisition of the alphabetic principle found that there is not sufficient evidence to claim that the ability to recode letters into sounds must be consciously taught to children learning to read. Studies to date do not suggest that meta-linguistic instruction is necessary, although it does appear to be helpful to some children. Second, evidence was reviewed on formal instruction for "early" and "late" readers. It was found that there are currently as many as 12% of American children who learn to read without formal instruction. Those children who learned to read "early" (before school entry) usually did so without systematic, explicit meta-linguistic instruction. Similarly, children who learned to read "late," well after their age peers had begun reading, also did so without any formal instruction and with no long-term damage to their academic achievement or reading proficiency. Both groups had, however, a rich access to print materials which facilitated their literacy acquisition and development. Third, a multiple regression model of state-level data was tested in which access to print via the school library, the public library, the home, and the classroom would predict higher fourth grade reading achievement, controlling for the effects of socio-economic status and amount of formal instruction. The model was supported. Fourth, a state-level analysis conducted on S.A.T. Verbal test scores found that access to print via the school and public libraries had a significant impact on test scores, controlling for the effects of socio-economic status, teacher-pupil ratio, and computer software holdings."
[not viewed, abstract from Grover and Downs, 1999]

Miller, A.L. (1997) *The Effect of Instructional Intervention on the Methods of Collaborative Work with Elementary School Library Media Specialists by Pre-Service Elementary Classroom Teachers*. University of Pittsburgh. PhD dissertation.

Abstract: "The broad research question for this study was: What effect will pre-service instructional intervention have on the willingness of student teachers to: (1) use the library media center; (2) collaborate with school library media specialists?

The pre-service teachers' responses to the pretest and post tests did not reveal any change in their willingness to utilize library media center resources. They had indicated a strong willingness to do so in the pretest and continued this indication through the post tests. Although they reported that they discussed their work with their library media specialists on many occasions, they collaborated primarily with their cooperating classroom teachers throughout the period of the study. The graded, highly structured experience of student teaching may account for the tendency to plan more with the cooperating teacher than with the library media specialist. The pre-service teachers' expectations about school library media specialists and library media centers were quite different from the realities that they found during student teaching. They expected to find full-time library media specialists in their schools which often was not the case, and since it was not, many of them found it extremely difficult to meet with their library media specialists to plan. During student teaching, they found library media centers with materials that were pertinent to the curricula that they were teaching to be the most valuable to them as well as the advice of a professional library media specialist. They utilized library media collections at a steady rate during both student teaching experiences while their use of classroom collections dropped as their experience increased."

[not viewed, abstract from Grover and Downs, 1999]

Nolan, J.P. (1989) *A Comparison of Two Methods of Instruction in Library Research Skills for Elementary School Students*. Temple University. Ed.D dissertation.

Pembroke, J.L. (1997) *Using a Special Reading Program to Modify the Attitudes of Fifth Grade Male Students Towards Voluntary Reading*. University of Illinois at Urbana-Champaign.

PhD dissertation.

Abstract: "The purpose of this project was to determine if the use of a motivational reading unit would lead selected students to modify their attitudes toward voluntary reading. To promote and modify attitudes toward voluntary reading, a reading program was constructed for use in a school library.

The program focused on fifth-grade male students who were reading at or above their grade level, but their voluntary reading habits were nonexistent or limited. Capitalizing on a theme of immense interest to this grade level, the thematic content unit included reading material and activities designed to appeal to this group. As the participants involved themselves in the unit, some of the features of importance were: accessibility of the library and books, a special theme, an adequate collection of books and materials (print and nonprint) supporting the theme, an inviting environment, social interactions, awards and incentives, reading guidance (i.e., the special bibliography or suggestion given by the librarian), book choice, activities related to the theme, and an interested facilitator. The intervention technique of this unit was intensive involvement which seemed to be the determinant factor in the change of any participant."
[not viewed, abstract from Grover and Downs, 1999]

Reid, D. (1997) *The Means By Which Primary School Teachers Select Fiction: a survey in Lothian schools.* The Robert Gordon University. MA Library and Information Studies dissertation.

Abstract: Investigates how primary teachers select fiction resources for their pupils. Of particular interest to this review is the discussion on teacher support needs in terms of in-service training and how the school library service can support them.

Yetter, C.L. (1994) *Resource-Based Learning in the Information Age School: the intersection of roles and relationships of the school library media specialist, teachers, and principal.* Seattle University. Ed.D dissertation.

Abstract: "This dissertation investigated resource-based learning in school library media centers in five elementary and two junior high school settings in Washington state during 199–93. Findings included the recognition of the importance of personal characteristics of the school library media specialist, principals, and teachers. Characteristics of school library media specialists August 29, 1998, included the following: leadership abilities, including the capacity to envision the resource-based process and connect it to the principal's agenda for restructuring; the willingness to take risks; the ability to teach the principles of resource-based education to teachers and to teach children effectively; and the personal stamina, energy, and enthusiasm to see the resource-based process from development through implementation. Some characteristics of principals included the following: the knowledge to link the resource-based process to other restructuring efforts, plus the abilities to take risks and provide leadership in the school's restructuring effort.

Characteristics of teachers included the following: the capacity to understand the significance of the resource-based process and the willingness to plan collaboratively with school library media specialists and to be risk takers.

Findings also showed that some structural supports must be considered essential elements in resource-based education. These included flexible scheduling to support efforts of school library media specialists and teachers to plan, teach, and evaluate outcomes cooperatively and sufficient resources for auxiliary personnel, library materials, equipment, and technology.

Findings also included recognition of the significance of the recent emphasis on the instructional role of school library media specialists from both national and state publications."

[not viewed, abstract from Grover and Downs, 1999]

Zsiray, S.W. (1986) *A Study of the Impact of Staffing Patterns in Elementary School Library Media Centers on Program Development.* Utah State University. Ed.D dissertation.

APPENDIX

Research Protocol

Two researchers searched in tandem according to a pre-defined format and regular contact was maintained to ensure reliability and rigour. It is necessary to avoid bias either in selecting studies already known to the researchers or selecting literature that reports research in a biased manner. The use of two researchers, following sound systematic review practise, helped to ensure that the search process and inclusion criteria are applied in an objective manner.

The Search Process

The key questions were set out by the Task Group in the original project brief for a critical review of the literature concerning the impact of school library services on attainment and learning at secondary level⁴ to which this forms a supplementary report:

- 1) What is the link between school libraries and achievement/attainment in schools? Can a link be made between school libraries and enrichment of the curriculum?
- 2) What impact do school libraries have on raising pupils' attainment in schools?
- 3) What impact do school libraries have on pupils' attitudes to learning?
- 4) How do the services provided by the school libraries vary from school to school? What is the impact on pupils' learning?
- 5) Is there evidence suggesting which model of school library provision produces the best results in terms of pupils' experiences and levels of achievement, attainment and attitude to learning?
- 6) What role does the school librarian (professional librarian, teacher or volunteer) undertake in the school? Is there a link to good teaching practice and achievement?
- 7) To what extent do the different backgrounds of the staff responsible for managing the school library and its resources limit or increase its effectiveness as a learning resource?
- 8) What research has been previously done on school libraries' impact on whole school provision?

These questions remain pertinent to this second review and were used as a guide to the selection of literature related to the primary context.

As the search process for first literature review was inclusive of literature from the primary context⁵, the first stage of the search process for the second literature review was to re-examine the literature originally selected for relevance to the primary sector. This procedure can be broken down as follows:

- a review of the literature included in the original annotated bibliography (40 items)
- a review of the literature included in the original extended bibliography (190 items)
- a review of the literature rejected at the second selection phase for the first bibliography - many items rejected at this stage of the first review were rejected as they were principally focused on the primary sector (approx. 400)

To supplement the literature selected through this method, further searches were conducted on a number of electronic databases available through Dialog (<http://www.dialogweb.com>) and the Internet. Searches were simple and targeted to identify literature relevant to the school library and the primary sector, and literature concerning the Schools Library Services (relied upon to a greater extent in the primary sector).

⁴ Williams D, Wavell C and Coles L (2001) *Impact of School Library Services on Achievement and Learning: a critical literature review* Aberdeen: RGU. Available at URL: http://www2.rgu.ac.uk/~sim/research/proj_2k5.htm

⁵ Detail of the search process for the first literature review is provided in the appendix to the first report (see footnote 4)

The Internet searches were conducted through a variety of search engines and the same selection of databases representing both the education and library sectors that were used for the first review were used for the second, i.e.:

- ERIC
- Social SciSearch
- Dissertation Abstracts Online
- British Education Index
- Education Abstracts
- Wilson Social Sciences
- LISA including Current Research in Library and Information Science
- ISA
- Library Literature
- Inside Conferences

As a result of these combined search activities, 115 items were added to the database for the primary sector literature review. A further 22 Ph.D. and Ed.D. dissertations are included after the main bibliography.

Summary of Research Questions

As in the literature review focusing on the secondary sector, the key questions cover four broad areas of interest and these were used to structure the final report:

- School libraries and academic attainment
 - What is the link between school libraries and achievement/attainment in schools?
 - What impact do school libraries have on raising pupils attainment in schools?
- School libraries and learning in its broadest sense (personal development & confidence)
 - Can a link be made between school libraries and enrichment of the curriculum?
 - What impact do school libraries have on pupils' attitudes to learning (or confidence in learning)?
 - What research has been previously done on school libraries' impact on whole school provision (i.e. impact of life of the school as a whole including curricular, inter-curricular and extra-curricular activities)?
- Service provision
 - How do services provided by the school libraries vary from school to school?
 - What is the impact on services provided on pupils' learning?
 - Is there evidence suggesting which model of school library provision produces the best results in terms of pupils' experiences and levels of achievement, attainment and attitude to learning?
- Professional expertise
 - What role does the school librarian (professional librarian, teacher or volunteer) undertake in the school?
 - Is there a link to good teaching practice and achievement?
 - To what extent does the different backgrounds of the staff responsible for managing the school library and its resources limit or increase its effectiveness as a learning resource?

Criteria for inclusion

Documents were selected according to their relevance to the key questions above and additional selection criteria as listed below:

- relevance to research topic (school libraries and learning, and primary education);

- type of document (research reports and primary source articles were included, and secondary source articles, books, resources were considered only if particularly relevant);
- date (as with the first review, a date of limit of 1988 was set - this was when the National Curriculum was introduced. Pre-1988 material was included only if highly relevant to the topic);
- availability of document (it was not possible to obtain dissertations through normal ILL (Inter Library Loan) channels in the timescale) and language (only documents in English were included).

Documents were obtained locally, ordered through ILL or printed, if possible. Once available they were examined for robustness and quality.

Inclusion criteria for in-depth review of documents

The documents of high and medium quality were examined in-depth for their relevance to the key questions and their applicability to English school library services and the English primary sector. Less rigorous research, or research of unknown quality has only been mentioned only if it had particular relevance to this review.

Synthesis of findings

Each included study was briefly described in the annotated bibliography and the key findings of all the in-depth reviewed studies were synthesised so that conclusions could be drawn about:

- the impact of the school library on learning in the primary sector;
- any gaps in the research; and
- methodologies the Task Group might adopt to obtain evidence of how school libraries help attainment.

This has formed the basis of the final report.