The development of young people's information needs

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Abstract

This paper draws on findings from recent research to examine the types of information young people require in their lives and how these needs develop during childhood. It became apparent in the study that first schoolers are heavily dependent on adults for advice and emotional support. Young children often want subject-based information on matters of which they have personal experience. For middle schoolers, academic generic skills may become important and their needs for subject knowledge in support of curriculum subjects are diverse. High schoolers typically require advice on their futures and material to inform decisions. Many of their academic needs emerge from homework and revision. The article concludes by discussing the implications for educators and school librarians of the developmental picture that is presented, and highlights the need for further investigation into young people's information needs.

Acknowledgements

Introduction

The application of skills in finding and using information is critical to youngsters' development in twenty-first century Britain. The National Curriculum, the "Literacy Hour" and the "Key Skills" initiative have all helped to raise the profile of information skills teaching, and the GCSE examination, with its emphasis on continuous assessment, demands that pupils demonstrate their abilities in this area when preparing coursework, the marks for which contribute to the final award. Today's youngsters are exposed to information from more sources and in more formats than ever before. The growing role of resources such as CD-ROM and the World Wide Web is noted by Ralph Tabberer (2000), Chief Executive of the Teacher Training Agency, who recognises that the "increasingly formidable advance of ICT means that teachers no longer have a virtual monopoly of schooling pupils from five to sixteen".

Yet, research into young people's behaviour with regard to information has not kept pace with these innovations. In particular, the lack of investigation into the types of information youngsters need in their lives has been observed by many experts. Over the last decade, Walter (1994), Kinnell (1994), Fourie (1995) and Hayter (1998) have all drawn attention either to how little is known about such needs or to the necessity of learning more. The importance of understanding young people's information-related behaviour from their own

perspectives is emphasised by Amey (1986). If, as Kuhlthau (1988), Westbrook (1993), Fourie (1995), Wilson (1999) and Choo (2000) suggest, a person's recognition of the information that he or she requires marks the beginning of the process of finding it, then the examination of information needs forms an important starting point in gaining the kind of understanding that Amey advocates. Gross (2000) believes that a knowledge of the phases of information behaviour associated with a youngster's development is also paramount when designing services for this group. In this attempt to explore the types of information youngsters need, this paper addresses the issues raised by Amey and Gross - data was obtained from young people themselves, with reference to their own, highly personal situations, and a developmental perspective was taken, in which changing patterns during the period from four to eighteen years of age were explored. Only those needs that the study participants actually felt and expressed to the investigators are considered. Needs that were pre-empted by teachers, for example, who provided information in advance of such feelings emerging, are beyond the scope of the work. Although the article deals solely with youngsters' needs for information, this dimension formed only one part of a wider project that also covered the actions that the research participants took in response.

Within the context of this paper, "information" is regarded as the intellectual material needed by a person to ease, resolve or otherwise address a situation arising in his or her life. If this definition is accepted, it can be seen that information may be required for a wide range of purposes. These may include alleviating an anxiety, making a decision, developing a greater understanding, finding out about a subject or solving a problem.

The sample

The study drew informants from six schools in Whitley Bay, a coastal town ten miles from Newcastle upon Tyne. If it is considered to embrace the wards of Monkseaton, St. Mary's, Seatonville and Whitley Bay itself, the town's population is around 38,000. Ethnic minorities formed less than 2.5% of the population in each of the wards at the time of the 2001 Census (National Statistics Online, 2003). One of North Tyneside's more affluent areas, Whitley Bay enjoys low unemployment and an overwhelming majority of the town's seventeen-year-olds is involved in full-time education.

Of the six schools that agreed to take part in the study, three were first schools (admitting children from four to nine years of age), two middle schools (whose pupils ranged from nine- to thirteen-year-olds) and one a high school (catering for youngsters of thirteen to eighteen). All six schools were open to boys and girls and were comprehensive, admitting youngsters regardless of ability, race or religion. They were all funded by the local education authority and subject to its guidance. In the latter half of the 1990s, each was inspected by OFSTED and emerged with credit. Recurring themes in the OFSTED reports included substantial parental support, high levels of pupil attendance, consistently good behaviour, few exclusions and praiseworthy academic standards. Test and examination results in each school usually exceeded the national average.

Informants in all six schools were drawn from one form in each year group. The form sampled and the individual pupils approached for data within that class were chosen randomly. Each form consisted of mixed ability youngsters from the same year group. Random selection was believed the most effective strategy in helping to ensure that the youngsters taking part were broadly representative of those in the forms from which they had been drawn. Each form teacher verified that the sample taken from his or her class embraced a wide range of ability. In total, 188 pupils from fourteen year groups were involved.

Data gathering and analysis methods

As attention was to be concentrated on the youngsters' own ideas and experiences, a qualitative methodology was selected. Data was collected via twelve focus groups and 121 individual interviews conducted in 2000. No pupil was involved in more than one data gathering session. Each informant was initially asked to "Think of a time recently when you needed help, when you needed to decide what to do, when you were worried about something or when you needed to find something out or learn something, either for school or your own interest. It might have been at home, at school or anywhere else. Could you tell me about what you remember of that time?" This approach was based on a strategy devised by Dervin et al (1976) for their study of the information needs of Seattle residents. After providing stories relating to the needs they had experienced, interviewees were asked to recall the action they had taken in response. Each data collection session was tape-recorded and verbatim transcripts prepared soon after the completion of the dialogue. Where possible the data relating to information needs was triangulated against documentary sources, including National Curriculum requirements and internal school documents, such as schemes of work.

Data was coded inductively using the constant comparative method of Glaser and Strauss (1967). A critical task during data analysis was to use the coded and categorised data to define types of information needs. In order to produce the developmental picture that formed the central task of the research, a meta-analysis was undertaken. Here the initial products of the typologies were integrated into an ongoing commentary. It is this synthesis, rather than the "raw" results of the project, that forms the basis of this paper. A structured typology of the information needs reported by the informants has already been presented elsewhere (Shenton and Dixon, 2003).

The developmental commentary

First schoolers (youngsters aged four to nine years)

In the first school two broad types of information needs are identifiable - those that are particular to young children and those which continue into subsequent school phases. Having moved from nursery education to mainstream school, four-year-olds are very dependent on adults and require guidance on many issues. In comparison with matters in relation to which older people seek advice, they may appear trivial, although to the youngsters they are serious. Such advice needs, which rarely involve school directly, are often spontaneous, emerging from unexpected situations. They may pertain exclusively to the youngsters themselves, such as what to do when they feel unwell, or to their interactions with others, like strategies to regain the friendship of peers after setbacks. Needs of this nature continue into youngsters' middle school years. First schoolers may also often require guidance on dilemmas such as which of two pleasurable activities they should pursue at a given time. Again, needs of this kind persist into much later years, although, over time, children become more confident in making their own decisions.

Emotional support is required by first schoolers in a range of areas. Anxieties especially result from situations that deviate from the norm and, once more, this is true of youngsters in all phases. They worry over matters such as minor ailments, disputes with friends and the welfare of others familiar to them, and may find it difficult to cope with situations they consider unpleasant but which they have to face in order to appease others, like visits to the dentist. In the early years, few anxieties relate to academic work but the pattern changes as youngsters move through the first school and work in class becomes more demanding. Older pupils develop concerns over class tests. As well as experiencing high levels of need in

terms of emotional support, the youngest children, usually girls, may require empathetic understanding of others, wanting to know "anything and everything" about their best friends. Such needs are primarily confined to Reception youngsters and quickly dissipate over time.

Many of the earliest school-related information needs experienced by first schoolers involve skills and tend to be subject-based rather than generic. This remains true throughout this educational phase. Skill needs often concern Mathematics, which continues to generate many needs across all phases. At this stage most involve basic "number crunching". Older first schoolers become increasingly aware of their shortcomings in school-related skills and identify for themselves their areas of weakness. These may pertain to certain subjects or specific situations. Once more, such self-awareness continues into middle and high school. Much skill-related information is required to reinforce that already conveyed in routine classroom teaching. During the first school years, many youngsters work hard to develop their academic abilities in order to win the approval of others or emulate older members of the family.

Subject knowledge needs for school are minimal among early years children, perhaps because lack of reading ability restricts the extent to which they can gain an awareness of matters outside their immediate worlds. Many of the "themes" addressed in class during pupils' first two years of school are limited to areas in which they have direct experience. Around the age of six, however, youngsters begin to investigate in class more general historical and geographical topics that are less rooted in their own lives. Although most of this work is tackled at school, youngsters may be asked to find factual information in their own time. Often the information required is general and unfocused. As pupils move through the first school, the balance tends to shift so that larger amounts of work are done at home. This pattern continues in the middle and high school phases. Usually what is required by the youngster is necessary for re-presentation in written work. Some individuals, stimulated by what they are learning in the classroom, feel an urge to know more about the subjects and undertake considerable work of their own volition at home. Again, this trend increases as the youngster moves up the school and even into middle school. It particularly applies to historical topics studied over a prolonged period in the classroom, and themes featuring some element of military conflict are highly popular among boys. An early indicator of such interest often takes the form of young children bringing to school materials pertinent to the subject under scrutiny. Nevertheless, even if a subject is much enjoyed at school by a pupil, he or she might not necessarily wish to pursue it beyond the classroom.

Outside school, children as young as four and five are keen to develop their skills in areas of interest to them. These often pertain to the operation of artefacts given to them as presents. Most skills that do not relate to toys involve some form of vigorous physical effort at this stage. Youngsters of five to six may become interested in sporting activities and seek to increase their skills beyond those associated with egocentric play. Football is commonly taken up by boys of this age, and many enjoy making and modelling activities.

Children of four and five have a wide variety of recreational pursuits but few include any significant information-requiring element. For many, needs for facts emerge in response to curiosities and problems that arise spontaneously in their lives, usually in relation to themselves, familiar people and the immediate environment of the home and the locality. Needs also pertain to domestic and classroom routines and procedures. Subject information needs in connection with other places may be stimulated as a result of youngsters' ties with them, and particularly visits. Just as skills information needs relating to sport tend to emerge in boys at around the age of six, so too does subject knowledge involving this area. The

initial stimulus may be provided by television coverage. This prompting often marks the beginning of interests relating to the wider world, and these increase in later years as, through reading and broadening experience, youngsters want to learn more about a range of diverse subjects. Whilst early subject knowledge sought by girls often relates to animals, themes of competition and even aggression permeate the enthusiasms of many boys. Alongside sport, interest may be shown in savage animals, military conflict, natural/supernatural phenomena, machines and transport. As youngsters are only just starting to develop a fondness for such subjects, low level, introductory information is required. In sport, this may take the form of learning the rules of a game or becoming familiar with major teams and players, although some children simply want to know more about a broad area. Quick reference "facts and figures" also hold appeal for many older first schoolers. Specific films, television programmes and pop stars catch the imagination of some youngsters, who may want further information about them, although others simply enjoy such productions or music without feeling the urge to know more. Highly motivated youngsters in their later years of first school may undertake their own projects on topics of interest and, again, this behaviour remains until well into middle school.

Middle schoolers (youngsters aged nine to thirteen years)
Many patterns within the first school phase continue into middle school. Youngsters still, for example, require advice in relation to problems in their everyday lives. Indeed, such needs may increase as youngsters are now becoming more independent and direct parental involvement in particular aspects of their lives begins to diminish. This contrasts with life during the first school years when children were shielded from many problems by their parents, who anticipated difficulties before they arose or resolved them so their offspring was not directly affected. With youngsters making more and more decisions for themselves, they may require advice on whether or not to accept particular challenges relating to school or leisure pursuits. The former may involve more intelligent youngsters in taking decisions regarding the sitting of additional SATs papers during Year Six, when they are aged eleven. In this and other situations they need not only guidance but also factual information to inform their decisions. As they begin to assume roles in relation to others, they may require advice on courses of action that affect those known to them, such as the buying of presents at appropriate times of the year.

Situations in which middle schoolers require emotional support may differ radically in nature from those of first schoolers. Typically, they are less troubled by minor ailments and small deviations from usual events and routines but concerns may develop over self-image, and problems with bullying are not uncommon. New challenges, some of which youngsters take on of their own volition, bring further anxieties. Whilst they welcome the opportunity to demonstrate their talents publicly, the responsibility of their involvement may weigh heavily on them. Concerns also develop over situations in which they feel they have no control, such as changes in family circumstances, and academic pressures. Anxieties arise in relation to homework, which is taking on an expanding role in the lives of middle schoolers, especially in terms of completing it on time and to an acceptable standard. Oral situations involving the delivery of talks are frequently found to be traumatic. National tests also cause apprehension with many youngsters becoming aware, for the first time, of the importance of SATs, taken during Year Six, and unease increases when their significance is stressed by teachers. Tests of this kind are not new to pupils, however. Indeed they would have experienced them four years previously, although youngsters who are aged only seven are generally oblivious to their importance.

Information needs pertaining to the development of mathematical skills continue to be felt but they vary widely from individual to individual because youngsters now work at very different levels. Skills are necessary to complete homework, as well as classwork, in addition to tackling SATs. Youngsters recognise for themselves the need to develop generic skills, chiefly in relation to time management and oral presentations. In these and other areas they are often highly adept at identifying their own deficiencies.

Curriculum areas for which pupils need subject-based information are more diverse in the middle school. Youngsters tend to be taught in lessons allocated to discrete curriculum areas and cross-curricular projects are rarer. Whilst needs arise in connection with traditional school subjects, information is also required on matters such as societal problems and real-world issues. Furthermore, increasing amounts of work for school are done in youngsters' own time, and this necessitates growing levels of independent information-seeking activity. In short, more work is done outside school for more subjects. On occasion, pupils may be given the opportunity to investigate any topic of interest to them. Although initially enthusiastic in this work, some lack persistence, are readily discouraged by initial difficulties in finding material and quickly change their topics instead of persevering and trying to overcome problems. For other assignments, information may be required to complement or extend what has been provided in class. As at first school level, the overwhelming majority of instances involve the acquisition of purely factual material, which is again principally needed for re-presentation. Here, however, a more applied approach is often demanded since it may be necessary to answer particular questions rather than simply set down anything that can be found out about a general area. Information may also be required for more oblique use either in writing that includes an imaginative element or to stimulate ideas. Away from school, many youngsters still pursue topics studied in the classroom, and those associated with history remain popular. Similarly, subjects involving conflict and warfare continue to hold appeal for many middle school males.

As in the first school, sporting skills are developed by many boys in their leisure time. However, the sports in connection with which skills are sought are more varied because youngsters receive opportunities to experience a greater range of activities. Gender differences in the sports taken up by youngsters are often apparent. Middle schoolers may become ever more serious in their attitudes to their chosen sports and the need to refine their skills may be stimulated by formal competition. This extends into high school. The making and modelling skills popular in first school years continue, although these tend to become increasingly specialist as youngsters are interested in modelling particular artefacts or working with certain materials. The motivations driving youngsters to develop skills unrelated to school vary considerably. Some realise the contribution that such skills may make to their progress, perhaps in terms of a particular career to which they aspire. Not all skills developed by youngsters away from school are self-motivated, however. In becoming more independent, middle schoolers may voluntarily take on additional responsibilities and challenges that *require* them to gain certain skills.

Other needs unconnected to school obligations emerge in a range of contexts. Some youngsters require information to prepare them for increasingly demanding future tasks as they seek to learn more about what lies ahead of them. Needs are often provoked by the social environment; youngsters may want to learn more about words new to them but commonly used by peers or members of the family. In terms of personal interests, many remain similar to those popular in the first school. Girls are still keen on animals, whilst boys typically want to know more about sport, machines, transport-related subjects and topics with a military element. Some develop an interest in areas of knowledge which they consider may

be useful in a future profession. Perhaps the most striking development, however, lies in the explosion in the need for consumer information in the middle school years. Often this is particularly evident in relation to boys and computer games but it is generally true that anyone who is a devoted collector wants to know more about what is available.

High schoolers (youngsters aged thirteen to eighteen years)
Although several patterns apparent in previous phases again continue into high school, themes more particular to teenagers also emerge. They require advice, for instance, regarding a range of decisions that will affect their long-term futures, namely in relation to jobs, and the selection of GCSE subjects during the latter part of Year Nine, of "A" Level options at the end of Year Eleven and of courses and institutions for Higher Education during Year Thirteen. Guidance may also be sought on less far reaching issues such as topics for coverage in assignments. In general, however, high schoolers prefer to make their own decisions and are less dependent than their younger counterparts on advice from others.

Teenagers are faced with heavy academic demands in terms of homework - including assessed coursework - internal tests and national exams. Not only are they often examined at the end of the school year and around Christmas but they may be tested after each "module" studied within a subject. Youngsters may require high degrees of emotional support in relation to each of these, although some form effective coping strategies and attitudes of mind that limit their anxiety. Many continue to find oral situations in class traumatic. These may include instances in which they are required to read aloud in English and role-play situations in Foreign Language sessions. They may be acutely embarrassed or intimidated by others in the peer group. Anxieties are not restricted to school situations, of course. Concerns for others may extend to close friends, whose role in the life of the teenager becomes increasingly important. Indeed, needs for empathetic understanding of others may grow in the teenage years. Girls may want to know more about boyfriends, and adolescents generally often develop curiosity in relation to the motivations of others known to them.

Mathematics continues to generate many of the subject-specific skills information needs experienced by youngsters. Such skills are more specialised than in the previous phases and involve highly precise contexts. A possible explanation for the continuing high profile of this curriculum area is that Mathematics is one of few subjects that pupils must study up to and including GCSE level. Beyond Mathematics, skills needs are very diverse. In Year Nine, the first year of high school, youngsters are introduced to a range of subjects, several of which are entirely new to them and necessitate the acquisition of relevant skills. Thereafter, however, the fact that youngsters may select their own options means that they themselves determine to some extent the domains in which they need to develop skills. Whatever options are taken, generic skills remain important. In particular, skills are sought for writing and structuring lengthy pieces of work and, again, for oral presentations. Skills of this kind are very product-oriented. Time management, too, may assume an increasing significance for some older high schoolers as they not only balance the competing demands for time of different homework assignments, ongoing revision and leisure but, in taking on part-time employment, must consider a new element in their lives.

During the high school years, needs for subject information follow a similar pattern to those pertaining to skills. In Year Nine, information may be required in support of subjects that have never before been studied by the youngsters. Thereafter, the curriculum areas in relation to which subject information is needed are again partially determined by option choices and, indeed, these are also responsible for the balance between subject and skills information required by the pupil. After GCSE level, information is needed in depth, rather

than width, with youngsters usually pursuing only three or four subjects to a high level. Increasingly, subject information involves "reading around" the focus of class and assignment work so that this is understood in its proper perspective and against a wider context. In English Literature, for example, during Year Nine and GCSE level needs tend to concern set books, whilst "A" Level pupils have to demonstrate more background awareness. Similarly, in the Sciences information may be needed in order to apply the results of experiments to wider biological, chemical or physical processes. Whereas these needs may be understood as "divergent", with youngsters seeking to develop an understanding beyond a particular book or experiment, "convergent" needs also arise. Here information is sought in response to highly specific essay questions that demand analysis, often in terms of cause and effect. In History this may involve explanation of the origins of a particular event or movement. Pupils may be required to provide their own assessments of a subject, phenomenon or situation. The prevailing pattern is consistent with the hierarchy of learning objectives within the cognitive domain defined by Bloom et al (1956). Typically, the information required for essays is needed for synthesis, rather than mere re-presentation, and the nature of essay questions may be too specialised to allow long passages of information simply to be copied or paraphrased. Work in class may provide only partial coverage of the question at the heart of the assignment, with the pupil obliged to find wider or more detailed information independently. Fairly general information may be required in the early stages of the work as youngsters explore the topic before a more restricted area is pursued. Fewer quick reference questions are set in the high school than in previous phases. Whether convergent or divergent information is required, that needed for essays itself often takes the form of analyses, interpretations, theories and opinions, and is no longer confined merely to facts. Multidisciplinary assignments, in which work ostensibly pertaining to one curriculum subject involves information dealing with quite separate areas, are common. There may also be greater scope for pupils to show individual initiative in determining the form of the eventual end product. In practical subjects, information may be needed to inform designs and stimulate ideas. A key theme within the high school is the decline in school-inspired interests. This may be the result of two factors. Firstly, the nature of set assignments may be sufficiently open-ended to allow pupils scope to follow up topics covered at school and of interest to them and, secondly, the large amount of school work that must be tackled may discourage youngsters from pursuing topics connected with school if it is not compulsory for them to do so.

Many needs involve facts to support decision-making with regard to youngsters' futures. Within school, teenagers require information relating to the options available at GCSE and "A" Level so as to inform their choices. Some may also seek from their teachers projections of their likely exam performances. Those who leave school at sixteen or do not intend to continue their education after completing their studies in the Sixth Form require information about jobs and job opportunities, whilst those wishing to enter Higher Education need to know about courses available to them and potential institutions of study. In terms of actual academic work, youngsters may wish to verify the instructions they have been given and confirm the expectations of their teachers in the face of increasingly demanding assignments that may be open to differing interpretations. They may also seek to ascertain the accuracy or quality of the work they produce.

Skills in music, sport and drama are developed by many youngsters in their leisure time. A range of active interests is taken up by high schoolers, some of them inspired by the provision of classes at school relating to them, although youngsters may lose their enthusiasm quickly. This is indicative of the fact that leisure-related skills needs are, for many, highly transitory,

yet some young people remain dedicated to a particular pursuit and are keen to develop their skills in this area throughout their teenage years.

Again away from school, teenagers enjoy gossip or "news" about peers, as well as members of the family. Girls' interest in animals usually fades but many boys continue to follow sport eagerly. Those whose interest in a particular sport is long-standing generally want information in relation to current stories, fixtures and results. This is typical of how teenagers frequently require information to extend what they know already in relation to an ongoing interest or to remain up-to-date with events in it, whilst some, of course, develop new enthusiasms and here more introductory information is desired. Boys remain keen on computer games, which still stimulate many consumer information needs. Although recreational interests are varied and some are highly specialised, popular culture and the media are central to many leisure-oriented information needs felt by girls and boys. Some hold strong views on particular societal issues and seek to investigate them more fully. However, the importance and sheer volume of school work, in terms of both assignments and revision for exams, may limit the scope for youngsters to develop their interests, which are further squeezed by the tendency of the more gregarious teenagers to spend much of their time away from school socialising with friends.

Implications for practice

Several recommendations to educators can be made based on the findings of the study. Perhaps the most striking theme that emerged across the different school phases was the problems that youngsters of all ages seemed to encounter in relation to Mathematics. A range of youngsters required help in developing their skills in this area and needed more teaching than that which they received routinely in the classroom. Although clearly on the basis of this study Mathematics should be targeted for special attention in schools, it was impossible to determine from the work whether similar problems emerge across youngsters of the same age or whether the difficulties are more specific to individual students. If the former is the case this would appear to indicate that many stumbling blocks can be eradicated through a whole class approach to teaching particular areas, whereas the latter implies a need for more one-to-one attention and greater proactivity on the teacher's part in identifying student problems at the earliest possible stage.

Another significant area in which youngsters either appeared to flounder or simply required information in order to develop further was that of transferable skills which were not tied to a specific curriculum subject. In this respect, planning and writing lengthy essays, managing time successfully and giving effective oral presentations all caused youngsters of middle and high school age significant problems. The participants in the research project were critical of the lack of coverage given by their teachers to skills in these areas. It would appear that as these older students were usually taught material through discrete curriculum subjects, insufficient attention was being directed to these more generic issues. One solution would be to address skills such as these in dedicated "study skills" sessions introduced in the middle school phase.

Significant numbers of middle schoolers, in particular, struggled when asked to undertake projects in which they could choose their own topics for coverage. Many were reluctant to ask for assistance from educators when they encountered difficulties and, rather than confront the problems facing them, were happier to choose a new subject and thereby sidestep the barrier. Educators must do more to emphasise that problems are a natural part of information-seeking activity and do not indicate failure on the part of the student. A more collaborative approach involving a real partnership between educators and students is needed

in schools. If youngsters are encouraged to discuss with their teachers minor problems as they arise these can be prevented from growing into insurmountable obstacles.

A further cause for concern lay in the anxieties that many high schoolers acknowledged they experienced when they were tackling assignments. Frequently teenagers found themselves uncertain about what was actually required them. These situations could often have been avoided if the students had received opportunities in the preliminary briefings to express their real concerns to those who were setting the work. Again, this is best achieved if a more collaborative, interactive atmosphere is created in our schools.

The findings also have implications for school libraries. Results from other areas of the project not reported here revealed that the study informants generally had either negative or apathetic attitudes towards their school libraries (Shenton and Dixon, 2002) and action has to be taken to improve students' perceptions of these organisations. An obvious method of initially attracting students into school libraries and then encouraging them to use the facilities that are offered would be to exploit their interest in, for example, sport in the case of boys and popular culture in relation to youngsters of both sexes. Stocking materials in these areas and creating appropriate displays may well go a long way in fostering more positive attitudes to school libraries, as well as helping students to satisfy their information needs in these areas.

In order to establish the extent to which the picture presented in the study is true of youngsters elsewhere, similar projects employing the same methods but conducted in other locations would be valuable. Some of the issues raised in the study are worthy of greater attention and, if an in-depth picture of information-seeking from the early years of childhood upwards is to be constructed, a sensible course of action would appear to be to target youngsters of particular ages in different projects. An accumulation of findings from different studies, undertaken with participants of different ages and in different places, might enable a more inclusive, overall picture to be formed.

References

Amey, L. (1986) Thespians, troubadours, hams and bad actors, *Emergency Librarian* 13(5), 9-14.

Bloom, B. S., et al (1956) *Taxonomy of educational objectives: the classification of educational goals - handbook one, cognitive domain*, London, Longmans. No ISBN.

Borgman, C. L. (1986) The user's mental model of an information retrieval system: an experiment on a prototype online catalog, *International Journal of Man-Machine Studies* 24(1), 47-64.

Choo, C. W. (2000) Closing the cognitive gaps: how people process information. In: Marchand, D. A., Davenport, T. H. and Dickson, T. (eds) *Mastering information management*, London, Financial Times/Prentice Hall, 245-253. ISBN 0-273-64352-5.

Dervin, B et al (1976) *The development of strategies for dealing with the information needs of urban residents, phase one: the citizen study*, Washington, School of Communications, University of Washington.

Fourie, J. A. (1995) Pupils as curricular information seekers and the role of the public library, *South African Journal of Library and Information Science* 63(3), 129-138.

Glaser, B. G and Strauss A. L. (1967) *The discovery of grounded theory: strategies for qualitative research*, New York, Aldine de Gruyter. ISBN 0-202-30260-1.

Gross, M. R. (1998) *Imposed queries in the school library media center: a descriptive study*, unpublished Doctoral dissertation, University of California.

Gross, M. (2000) The imposed query and information services for children, *Journal of Youth Services in Libraries* 13(2), 10-17.

Hayter, S. (1998) *"Once you get to this age, it's dull and boring": the crisis of public library provision for youth with reference to Durham city*, unpublished MA dissertation, University of Northumbria at Newcastle.

Kinnell, M. (1994) Far horizons: international perspectives on libraries and reading for teenagers, *International Review of Children's Literature and Libraries* 9(2), 73-87.

Kuhlthau, C. C. (1988) Developing a model of the library search process: cognitive and affective aspects, *RQ* 28(2), 232-42.

National Statistics Online (2003) *Census 2001: neighbourhood statistics*. URL: http://neighbourhood.statistics.gov.uk/Default.asp?nsid=false&CE=True&SE=True [29 January 2004]

Pitts, J. M. (1994) *Personal understandings and mental models of information: a qualitative study of factors associated with the information-seeking and use of adolescents*, unpublished Doctoral thesis, Florida State University.

Shenton, A. K. and Dixon, P. (2002) Youngsters' use of and attitudes to their school libraries: results of a qualitative research project, *The School Librarian* 50(4), 176-179.

Shenton, A. K. and Dixon, P. (2003) Just what do they want? What do they need? A study of the informational needs of children, *Children and Libraries* 1(2), 36-42.

Tabberer, R. (2000) *ICT and learning: striking the balance*. Paper presented at the Teaching, Learning and ICT Conference of the Association of Teachers and Lecturers. URL: http://www.askatl.org.uk/news/Conferences/ICT_Conference/tabberer.htm [29 January 2004]

Walter, V. A. (1994) The information needs of children. In: Godden, I. P. (ed) *Advances in Librarianship 18*, London, Academic Press, 111-129. ISBN 0-12-024618-X.

Westbrook, L. (1993) User needs: a synthesis and analysis of current theories for the practitioner, *RQ* 32(4), 541-549.

Wilson, T. D. (1999) Models in information behaviour research, *Journal of Documentation* 55(3), 249-270.

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