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Information literacy roles of library media high schools: Israeli perspectives

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Abstract

*Purpose***:** The purpose of the study was to establish the relations between two important roles of school library media (SLM) specialists: cooperation with teachers and provision of information literacy programs to students.

Methodology: One-hundred thirty eight library media specialists employed in Israeli high schools replied to several questionnaires developed specifically for this study. Factor analysis extracted three factors for collaboration with teachers (provision of learning resources, expertise in digital information and curriculum planning) and three factors for librarians' educational role in the provision of information literacy to students (teaching information literacy skills, fostering independent learning skills and conveying ethical standards for information use). Additional statistical tests were used to determine the extent of SLM specialists' involvement in the different roles and the correlations between the various factors. The study examined also the impact of background characteristics on librarians' educational roles.

Findings: The results indicate that an ongoing relation with teachers, particularly in the provision of information resources, is highly correlated with the teaching of information literacy programs to students. Advanced technology in the school library media centre facilitates higher-level cooperation with teachers as well as higher involvement in information literacy educational programmes.

Practical Implications: The study shows that information literacy programs benefit from the collaboration between librarians and teachers. The statistical analyses indicate which aspects of librarians' roles should be expanded in order to facilitate cooperation with teachers and elevate librarians' involvement in information literacy programmes.

Originality: Unlike previous studies, this paper addresses directly the relationship between collaboration with teachers and provision of information literacy programmes, and its conclusions contribute to the generalization of previous findings. This is the first study of Israeli school librarians' practice of educational roles.

1. Introduction

In the information-rich environment of the 21st century students need to be both discriminating consumers and skilful creators of information in a range of technologies. Information literacy, defined as the ability to find and use information, becomes a most important quality which can provide definite advantages in all ways of life, including academic achievements in school (IFLA/UNESCO, 1999). Information literacy is a complex process, which involves cognitive and affective stages (Kuhlthau, 1993; Oberg, 2001). Students should develop the ability to manage information overload, to construct a personal understanding from diverse and often inconsistent information messages, and to keep learning in a constantly changing environment. These abilities can be developed through inquiry-based learning, in accordance with the constructivist theory. Students learn to use information in meaningful ways in order to construct their own knowledge, and not just in the context of their academic work.

Information literacy extends beyond the school years and constitutes one of the keystones of lifelong learning. The new information-based economy requires information literate workers who are able to think critically, to analyze and interpret information and to master new evolving technologies (Candy, 2002). Becoming a lifelong learner involves a sweeping change from the way many students are used to learning. It requires students to assume more responsibility for their own learning, either individually or in work groups, to be self-directed, flexible and more active in their intellectual pursuits (Colorado, 2002; Hindes, 2003). As school systems have begun to restructure the learning process to reflect the use of information in the real world, teachers are expected to act as facilitators of active learning rather than as transmitters of pre-digested information.

Recent developments in information technologies allow students to exchange ideas and collaborate with others students on a local, national and global level, creating a "learning community". In this new learning environment it is crucial that students should be able to identify conflicting viewpoints, appreciate the variety of cultural, social and political perspectives, act responsibly and ethically in regard to information use and respect the tenets of intellectual freedom, intellectual property rights and privacy. While understanding the dangers inherent in the new modes of communication, students should develop the necessary techniques to share information and knowledge with others, to collaborate with diverse individuals and to contribute their ideas creatively. Information literate students should be able to adjust quickly to changes and to work independently as well as in groups (Hindes, 2003). The education system must respond to all these concerns and find ways to convey to students new skills required in all the disciplines, although they are not part of any distinct discipline.

2. The school library media centre – changes and challenges

The school library media centre (SLMC) has experienced radical changes from the beginning of the 20th century until the restructured "information utility" of today (Barron & Bergen, 1992). The very name change signified the transformation of its role. (Loertscher, 2000). The SLMC is a multimedia resource centre that combines the advantages of print and electronic information systems and can, if used effectively, address all the information needs of both students and teachers. Summing up the results of eight previous studies, Lance (2002) found "a clear consensus" about the contribution of the school library to academic achievement. Later studies continued to document by empirical evidence the positive impact of school library media

programmes (Baumbach, 2003; Lance, Rodney & Hamilton- Pennell, 2005; Todd & Kuhlthau, 2004).

Along with the changed perception of the SLMC, the role of the librarian has also undergone a major transformation. Studies have repeatedly confirmed the school library media (SLM) specialist's importance in performing tasks associated with learning and teaching, as well as tasks associated with information access and delivery (Burgin & Brown, 2003; Haycock, 1999; Lance, Rodney & Hamilton- Pennell, 2005; Turner & Riedling, 2003). Librarians bring to the education process the "information perspective", looking at curriculum and learning in terms of the information resources and technologies required for student success (Lowe, 2001). During the past two decades SLM specialists have assumed the tasks of directing students in the effective use of information resources and creating the foundation for lifelong learning.

The SLM specialist focuses today on the process of learning as much as on dissemination of information, aiming to help create a well-rounded, information literate student. (Loertscher & Woolls, 2002). Teaming with classroom teachers in teaching information literacy skills within a subject area, librarians address authentic, real-life needs and problems. To this end, systematic planning and cooperation among all teachers and SLM specialists is deemed essential.

The instructional role of SLM specialists has been given prominence in the literature and different states have incorporated specific statements in this regard in their guidelines for SLM centres. For example, the revised *Information Literacy Curriculum Guidelines in Minnesota* (Mankato, 2003) stipulate that teaching information skills is the joint responsibility of the building library media specialist and the classroom teacher within a subject area, within an inter-disciplinary unit, or as part of an activity that addresses an authentic, relevant need or problem.

3. Information Power

The publication of *Information Power: Guidelines for School Library Media Programs* (AASL, 1988) was of paramount importance for the development of SLM programmes. Whereas the previous standards for school libraries were not widely known outside the field, *Information Power*, published jointly by the American Association of School Librarians and the Association for Educational Communications and Technology, took a broader view and attempted to show how schools could integrate all elements of educational and information technology into the curriculum.

The new guidelines defined the SLMC and the work of the library media specialist in both philosophical and practical terms (DeGroff, 1997). *Information Power* (1988) emphasizes the responsibility of the SLMC toward the creation of an information literate learning community, its mission being "to ensure that students and staff are effective users of ideas and information." (p. 6). The guidelines delineate three educational roles of the SLM specialist: information specialist, teacher and "instructional consultant", giving equal value to each responsibility.

A decade after the publication of *Information Power* (AASL, 1989) a second edition was released, bearing almost the same title. Despite the changes occurred in society, education and technology during the interval years, *Information Power: Building Partnerships for Learning* (AASL, 1998) embraced the same mission of the SLMC as the previous guidelines: provision of creative, energetic programmes and services focused on information literacy in order to create an active and involved

student, a lifelong learner and a responsible citizen in the Information Age. The goals of library media programmes continued to emphasize the intellectual and physical access to information, in addition to the development of a community of learners. Undoubtedly, the most important contribution of the second edition of *Information Power* is the chapter on Information Literacy Standards for Student Learning which emphasized the SLMC's direct involvement in the education process. The nine standards and their twenty-nine narrowly-focused indicators are similar to instructional goals and measurable objectives. They constitute a process model of how students solve an information problem through connected activities that flow from accessing information efficiently and effectively, evaluating it critically and using it creatively. As stated in *Information Power*, the standards "demonstrate clearly that information skills…should be linked to the curriculum in every subject area and grade level… [they] provide the basis for the library media specialist's role in collaborative planning and curriculum development. . . . support the SLM specialist's leadership role in analyzing learning needs, identifying instructional strategies and resources, and evaluating student achievement" (AASL, 1998, p. 62-63). The recent literature confirms that effective uses of information technologies serve as a learning tool, beyond information seeking, and promote authentic student learning in accordance with constructivist theories of learning (Neuman, 2003).

The information literacy standards (AASL, 1998) relate to three broad areas of information use by students. The first, information literacy, comprises skills directly associated with processes of information seeking, information evaluation and information use. The second category, lifelong learning, develops the information literacy skills conducive to the necessary lifelong ability to use information and continue learning, beyond class assignments and academic pursuits. The third area called "social responsibility" concerns values and attitudes related to information use in a democratic society – respect for diverse cultures and opinions, respect for intellectual property rights and intellectual freedom, practice of ethical behaviour in the digital environment and readiness and ability to share knowledge and to collaborate with others in order to form a learning community.

Another key aspect of librarians' work centres on collaboration with the teachers. In the new *Information Power* (AASL, 1998) the "instructional consultant" role was renamed "instructional partner" and the SLM specialist was elevated to the position of "curriculum, instructional, and technology leader", who collaborates with all members of the learning community as s/he develops a student-centred library media programme.

4. Implementation of Information Power in School Library Media Centres

Although over fifty thousands copies of *Information Power* (AASL, 1998) have been sold in the U.S. and twenty-four other countries (Colorado, 2002, Neuman 2003), only a few studies examined the actual implementation of *Information Power* guidelines in SLM centres. The findings are not conclusive. McCarthy (1997) reported that, while librarians from New England schools were committed to the principles of *Information Power*, less than half believed that they could be realized in their schools, echoing Pickard's (1993) earlier findings. McCracken (2001) found that SLM specialists practiced the roles in the order of their perceived importance, and the time-honoured roles of information specialist and programme administrator still predominated while the newer roles of librarians as teachers, instructional partners

and instructional consultants were practiced less frequently. Smith (2001), who surveyed Texas librarians, found that they spent only 7-8 percent of their time providing information skills instruction and 2-12 percent providing reading incentive activities. McCarthy (1997) concluded that several factors were absolutely necessary if librarians were to expand their roles as described in *Information Power* and implement the new guidelines, and chief among them were collaboration with teachers and a proper educational philosophy.

The results of other recent studies reiterated that effective SLM programmes were feasible, and impacted positively on student achievements. Furthermore, the studies showed a positive correlation between the level of services provided by SLMCs and students' academic achievements (Colorado, 2002; Lance, Rodney & Hamilton-Pennell, 2005; Todd & Kulthau, 2004).

5. Collaboration with teachers
Despite repeated calls for collaboration between teachers and library media specialists, research studies have indicated mixed results regarding the actual situation, leaving the impression that there are large disagreements between theory and practice. Getz (1996) found a large discrepancy between the theoretical, positive attitudes expressed by teachers towards collaboration with librarians (60%), and the concrete, real level of collaboration (28%). Other studies concurred that the level of collaboration between librarians and teachers was minimal (Author, 2007; Haycock, 1999).

One problem might be methodological. The concept of collaboration is quite ambiguous, as evidenced by Loertscher's (2000) taxonomy, as there is a whole range of ways in which teachers may work together with library media specialists. Various studies might have looked at different practices as examples of collaboration, and have consequently reached different conclusions. Based on the social constructivist view of education, Montiel-Overall (2005) suggested a broad definition of collaboration as the "trusting relationship between two or more equal participants involved in shared thinking, planning and creation of integrated instruction".   The researcher proposed four models of joint working relationships based on the degree of involvement and commitment and the extent to which the effort focused on improving student outcomes. At the basic level there is **coordination**, characterized by reciprocal help and making arrangements for efficient use of place and resources, then **cooperation**, with a higher level of involvement, but not yet co-planning, **integrated instruction** which involves shared thinking and planning and finally **integrated curriculum** when the process extends to the entire school. All the models presume that there is a certain amount of networking between teachers and SLM specialists as a way to get to know each other and build increasing trust.

An additional problem might revolve around the issue of equality. In collaboration, equal partners work together. However, studies have indicated that school principals, teachers and librarians alike did not perceive librarians as equal partners in the educational process (Ansenberg, 2003; McCracken, 2001; Pickard, 1993). While some teachers and school principals identified the librarian's role with that of a clerk (Dorwell & Lawson, 1995), others seemed indifferent towards school libraries and librarians, perceiving them as "invisible professionals" in the educational setting (Hartzell, 1997). Librarians' self-image might also be at fault: although they perceived their instructional role to be important, SLM specialists described their role

as supportive, not equal to that of the teachers (Pickard, 1993). All this is in sharp dissonance with the call of *Information Power* that librarians should assume a leadership role in collaborating with teachers.

As opposed to these views, other studies reached contrasting conclusions, proving that collaboration between teachers and librarians was possible. Studies reiterated that students can fully realize the benefits of the library media programme only when librarians and teachers collaborate (Eaton & McCarthy, 1995; Shannon, 2002). McCracken (2001) was categorical in her conclusion that collaboration requires SLM specialists to be capable teachers, and indeed many studies demonstrated that teachers tended to cooperate with librarians who provided direct instruction to students. In those instances, the students also showed better research skills (Kennedy-Manzo, 2000; Lance, Rodney & Hamilton-Pennell, 2003; Stripling, 1997). Interestingly, Lance reported that collaboration with SLM specialists improved also teachers' teaching skills (Lance, 2002).

It appears that opportunities for collaboration with teachers depend upon the conditions existent in schools. While some SLMCs enjoyed a large staff, supportive surroundings and a flexible schedule, others encountered multiple barriers to full involvement in the educational process. Additional factors which constituted deterrents to the implementation of *Information Power* in schools were lack of adequate funding and technology, lack of clerical staff, lack of time to plan with teachers, lack of interest and support from school administrators and teachers, and also librarians' inability to perform the instructional consultant role and lack of professional training (McCarthy, 1997; McCracken, 2001; Smith, 2001).

6. Israeli perspectives

Israel is a developed country with a technologically advanced market economy exhibiting all the characteristics of Western countries. Education is compulsory for 11 years (K-10) and free for all children between 5 and 15 years of age. Secondary schooling culminates with the Matriculation Certificate following comprehensive examinations. While the median number of schooling years is currently 12.5 years (Israel CBS, 2006, Table 8.3), twenty-eight percent of Israel's workforce holds university degrees (Israel CBS, 2006, Table 12.7).

The school system, mostly public, is state-administered. The Ministry of Education includes a Department of School Libraries which controls and instructs librarians in all types of schools. As opposed to elementary school libraries, which are not required (nor funded) to have a professional librarian, all secondary schools have library media centres staffed by librarians and media specialists. However, as the ratio of library staff to student population is 1:25 classes, most library media centres are unable to provide a full range of services. Nevertheless, anecdotal evidence indicates that SLM specialists customarily help students locate resources needed for their classes and provide instruction regarding use of resources. An important aspect of librarians' work, particularly in junior high schools, concerns reading advocacy. Librarians also advise teachers about materials relevant to their disciplines.

So far no study has been conducted in Israel concerning the roles of SLM specialists in information literacy provision.

7. Purpose of study

This study aims to establish if collaboration of SLM specialists with teachers is correlated with a higher involvement in the provision of information literacy programmes to students, as practiced by SLM specialists in secondary schools in Israel. To this end the study sought answers to the following questions:

1. To what extent are library media specialists collaborating with teachers?
2. To what extent are library media specialists conveying information literacy skills and attitudes to students?
3. What are the possible correlations between descriptive variables and librarians' practice of their different roles?
4. Is there a correlation between librarians' collaboration with teachers and their role in information literacy programmes?

8. Methodology

The population studied included library media specialists employed full-time or part-time in secondary schools (junior high school and high schools) in Israel. The study used several questionnaires designed on the basis of the pertinent literature.

The first section addressed descriptive information. The questionnaires were anonymous and no identification was requested neither of the librarian nor the school. The respondents were asked general questions concerning the school (size of town, educational level, number of students), the SLMC (size of staff, collections available, technology available) and personal information about the respondent (education, professional certification, number of years of experience as library media specialist, age). The second section of the survey included a 15 -item questionnaire pertaining to LMC specialists' collaboration with teachers. The last section consisted of a 22 - item questionnaire focusing on the library's information literacy skills and attitudes (ILSA) programme with students. These two questionnaires are described further below.

8.1 Collaboration with Teachers Questionnaire

The items were based on the questionnaire of Author (2004), but modifications were introduced as deemed necessary for the present study. The respondents were asked to assess the extent of their practice as expressed by each statement on a five-point scale, ranging from 1= limited extent to 5= large extent.

Factor analysis was conducted used in order to extract the principal components of the construct, and the Varimax procedure for the orthogonal rotation. The factor analysis yielded three factors which explained 63% of the total variance.

The first collaboration factor addressed librarians' *provision of information resources* in response to teachers' expressed needs. Nine items clustered on this factor; its internal consistency reliability was .88. The second factor included two item, indicating collaboration with teachers in connection with the new *digital information technologies*. The internal consistency reliability estimate of this factor was .74. The last factor, *Curriculum planning*, included three items which assessed librarians' participation in the overall school educational process, including librarians meeting with the principal and participating in school committees. The alpha coefficient of this scale was .90.

8.2 Information Literacy Skills and Attitudes (ILSA) Programme Questionnaire

The researchers developed the second questionnaire in several stages. First, they conducted a thorough literature review of the US and UK professional literature on the SLMC's programmes for students. The standards for information literacy formulated in *Information Power* (AASL, 1998) were selected as representing the most current thinking and "the best practice" in library educational programmes. On the basis of the standards and their own acquaintance with the activities taking place in Israeli schools, the researchers formulated 22 statements deemed appropriate for Israeli SLMCs. The statements were then grouped into three categories, as described in *Information Power.* Finally, a panel of three Israeli experts validated both the items and their clustering into categories. The first category was named *teaching information literacy skills* and included eight items. The second category, *fostering independent learning*, also included eight items. The third category referred to the conveying of ethical principles of conduct with information and comprised six items. Cronbach's alpha coefficients were computed following the return of the filled-out questionnaires. The results indicated a very high internal consistency: .86 (skills for independent learning), .90 (ethical conduct and social responsibility) and .93 (teaching of information literacy skills). Consequently, the respondents' ratings were aggregated into three measures according to the mean of the item ratings in each category. The possible range was between 1 (to a limited extent) to 5 (to a very great extent), with higher ratings indicating that the SLM specialist practiced this role more frequently.

8.3 Data Collection

The questionnaires were distributed during the two-day annual conference of Israeli SLM specialists which took place in July 2006. The three-hundred participants arrived from all parts of Israel and all school levels, and included SLM specialists as well as teachers who worked in elementary school libraries. Questionnaires were solicited only from library media specialists employed in post-elementary education. One hundred and ten questionnaires were found valid for analysis. Some invalid forms were partially filled; others were filled by teachers employed part-time in elementary school libraries. After the conference, the researchers appealed to SLM specialists through the relevant Internet discussion group asking them to fill in the questionnaire. A reminder was re-sent through the discussion group after one month, when schools resumed their activity at the end of the summer vacation. Twenty–eight valid questionnaires were received bringing the total to 138 forms. Six additional questionnaires arrived too late to be analyzed and were not included in the study.

9. Results

9.1 Study respondents

School environment. Over half the respondents (73 SLM specialists, 54.7%) were employed in six-year high schools, larger units which comprise two departments: junior high and high schools. Nineteen percent (24 SLM specialists) were employed in independent junior high schools (grades 7 - 9), and approximately a quarter of the respondents worked in secondary schools (grades 10 - 12). While half the librarians surveyed worked in schools with a student body of over 800, only fifteen percent worked in large schools with over 1500 students. At the lower end, 10% of the participants were employed in smaller secondary schools with an enrollment of less than 400 students.

Most of the SLM specialists surveyed (43%) were employed in large cities. An almost equal number of SLM specialists worked in small town schools and in regional (rural) schools (16.7% and 16%, respectively). The remaining SLM specialists were employed in middle-size towns with 40,000- 100,000 inhabitants.

SLMC characteristics. The results indicate that a third of the school libraries employed only one library media specialist. Although 37% of the school libraries had two SLM specialists, most of them were employed part-time, so that 62% of the libraries had fewer than 1.5 FTE.

The findings show that many SLMCs offer a balance of print, multimedia and electronic resources. While over 90% of the schools surveyed had print collections– fiction (96%), non-fiction (98%), reference sources (96%) and periodicals (90%), the figures for non-print materials reveal large differences. Audio and visual resources were available only in 62% and 80% of the schools, respectively, and electronic media (databases and courseware on CD-ROM) were found in about half the libraries surveyed (60% and 53%, respectively). Only forty-one percent of the respondents indicated that their libraries held popular magazines for students' use. Most SLMCs   (92 %) have computers, and 89% of these specified that their computers were connected to the Internet.

SLMC staff characteristics. Approximately two thirds of the SLM specialists are college graduates (63%). Of these, 76% held a B. A. degree, 23% had an M.A. degree and one librarian was a PhD graduate. Almost half the respondents indicated that they have a teaching diploma, that is, they have pedagogical qualifications similar to those of the school teachers. A very large majority of SLM specialists (79%) have acquired their professional education in academic institutions and received academic degrees or diplomas, as opposed to only 11% who still had only the lower-level "Librarian II Diploma" offered by the professional association (and discontinued since 1984). A mere 10% of the respondents lacked professional training. Forty percent of the SLM specialists have obtained the academic "Certified Librarian" diploma offered by programmes housed in teacher training colleges, 15% had the "Authorized Librarian" diploma offered by post-graduate University departments and twelve percent had an M.A. degree in Library and Information Studies.

The results demonstrate show that library media specialists in SLMCs are not very young. Sixty-one percent of the respondents reported they were over fifty, and a third (32%) in their forties. A meagre 7% of the respondents were younger than 40 year-old.

10 Findings

10.1 Collaboration with teachers

Research question 1 investigated the extent of collaboration between SLM specialists and teachers. The results of ANOVA tests with repeated measurements for comparison revealed significant differences among the collaboration factors. F (2, 242) =78.24, p<.001. Paired-comparisons tests (according to Scheffe) showed that significant differences existed between all the factors; collaborative activities in the provision of teaching materials ranked first among librarians' activities with teachers (M=3.16, SD= .95). In the second place appeared collaborative activities concerning digital materials (M=2.71, SD= 1.35), with the least practiced being the collaboration for curriculum planning (M=1.99, SD= 1.07).

10.2 ILSA programmes

The second research question sought to examine to what extent SLM specialists were conveying information literacy skills and attitudes to students. One-way analysis of variance (ANOVA) tests with repeated measurements for comparison revealed significant differences among the three aspects of SLM specialists' educational role, $F(2, 262) = 62.91$, $p < .001$. Teaching information literacy skills is the role practiced by librarians to a greater extent than the other two roles ($M = 3.31$, $SD = 1.04$). The role of fostering independent learning skills is practiced second ($M = 2.92$, $SD = .99$), and the role of conveying ethical principles of conduct with information was rated last ($M = 2.63$, $SD = 1.18$).

10.3 Correlations between descriptive variables and librarians' roles

Question 3 examined possible correlations between librarians' professional and personal variables and their educational roles. To this end the researchers conducted several Pearson correlation tests, one-way MANOVA tests and ANOVA tests.

10.4 Correlations regarding collaboration between librarians and teachers

Pearson tests examined the relationship between the library collection and the three collaboration factors, and revealed several significant correlations, as shown in Table 1.

Table 1. Collaboration Factors by Size of Library Collections

Collaboration Factor	r Print resources	r non-print resources
Curriculum planning	.18 *	.24 **
Digital resources specialist	.07	.24 **
Provision of teaching resources	.30 **	.29 **

*$p < .05$ **$p < .01$

The existence of digital resources in the library media centre was correlated with librarians' role as digital resources specialists, as expected, but the results showed also a strong correlation with the other factors. The strongest correlation concerned librarians' provision of information resources.

Additional Pearson correlation tests revealed significant although weak relationships between the number of computers in the library and all three collaboration factors: $r = .16$, $p < .05$ for activities concerning teaching resources, $r = .19$, $p < .05$ for activities concerning digital *resources* and $r = .27$, $p < .01$ for curriculum planning.

A weak relationship was also found between the size of the library staff and librarians' role as providers of information resources ($r = .17$, $p < .05$).

One-way MANOVA analysis was performed to determine relations between the school leve*l* and the extent of collaboration with teachers (Table 2) and showed that librarians employed in junior high schools practiced the role of curriculum planning

more than librarians employed in other types of schools, particularly six-year schools ,$F(6,232) = 2.16$, $p < .05$, Eta^2 =.053.

No correlation was found between collaboration with teachers and the number of students and various demographic characteristics of the librarians: age, education, professional credentials or years of experience.

Table 2. Collaboration with Teachers According to School Level

Factors	Junior high		6-year high school		F (6,232)	Eta^2
	M	SD	M	SD		
Teaching materials specialist	3 .31	.86	3.13	.88	.438	.01
Digital resources specialist	2.87	1.28	2.74	1.33	.157	.00
Curriculum planning	2.54	1.14	1.76	.97	4.98 *	.08

 * $p < .05$

10.5 Relations regarding the ILSA programme

   One-way MANOVA tests revealed significant differences between the respondents' teaching of information literacy skills according to their teaching credentials, $F(3,96)$ = 4.31, $p <.01$, Eta^2 =.119, as evident in Table 3.
   It appears that SLM specialists with a teaching diploma are less involved in teaching information literacy skills than librarians with no educational credentials. No statistical differences were found regarding the two other factors.

Table 3: Differences in the Practice of ILSA Programme Factors by Teaching Diploma

Factors	With teaching diploma		Without teaching diploma		F (3,96)	Eta^2
	M	SD	M	SD		
Teaching of Info literacy skills	3.19	1.04	3.56	.97	3.25 *	.032
Fostering of Indep learning skills	2.94	.94	2.87	.89	.16	.002
Promoting Ethical conduct with information	2.52	1.11	2.77	1.28	1.14	.002

 * $p < .05$

Additional MANOVA test results found significant differences between the respondents' frequency of teaching *information literacy* skills and fostering independent learners by the presence of an Internet connection in the library media centre, $F(3,122) = 7.6$, $p <.001$, Eta^2 =.16. Table 4 presents the data. As seen in the

Table, SLM specialists employed in SLMCs with Internet connection performed these two ILSA activities more frequently.

Table 4. Differences in the Degree of Involvement in Educational Programme According to Internet Connection

Factors	Libraries with Internet connection		Libraries without Internet connection		F (3,122)	Eta^2
	M	SD	M	SD		
Information literacy	3.42	1.01	2.49	.93	7.13 **	.05
Independent learning	2.99	.93	2.09	.90	7.83 **	.06
Ethical conduct	2.66	1.17	2.47	1.44	.22	.00

** $p < .01$

No statistical differences were found among the respondents concerning their educational work with students by type of school, number of students, size of the library staff, type of media and number of computers in the library or the librarians' professional qualifications.

10.6 Correlations between the dependent variables

The last research question addressed possible relations between the extent of the respondents' collaboration with teachers and the extent of their involvement in ILSA programmes with students.

The results of Pearson analysis revealed significant correlations between all the Collaboration with Teachers factors and all the ILSA Programme factors.

Table 5. Correlations between Educational Programme Factors and Collaboration with Teachers Factors

ILSA programmes Collaboration with teachers	Teaching Information literacy skills	Fostering Independent learners	Conveying principles of ethical conduct
Provision of resources	.62 **	.60 **	.46 **
Digital information specialists	.48 **	. 44**	.46 **
Curriculum planning	.21 *	.25 *	.17

* $p < .05$ ** $p < .01$

As presented in Table 5, SLM specialists who are more involved in collaborative work with teachers are also practicing their education roles on a higher level. Particularly strong correlations were found between their role as providers of information resources to teachers and their involvement in all the aspects of the ILSA programmes.

11. Discussion and conclusions

The study sought to determine if there is a correlation between the teacher-librarian collaboration and the librarians' involvement in information literacy skills and attitudes (ILSA) educational programmes. To this end the study used six factors: three collaboration factors (provision of teaching resources, digital information specialist and curricular partner) and three information literacy factors (teaching information literacy skills, fostering independent learning and conveying ethical and social responsibility in the use of information).

11.1 Collaboration with teachers

The extent of collaboration between SLM specialists and teachers appears to be fairly low, ranging from "to a small extent" (M = 1.99) for curriculum planning to 3.16 ("to a moderate extent") for provision of teaching materials. Loertcher's (2000) ten-level taxonomy of the library media specialist lists the provision of information resources to teachers as levels 3-5, as opposed to involvement in the educational process which was ranked 8-10 on the scale. The results indicate that most of the respondents surveyed were engaged in lower levels of cooperation with teachers, echoing Smith (2001) findings in Texas. A comparison of the results with the Montiel-Overall (2005) model reiterates that the involvement of SLM specialists with teachers exists only at the basic levels of coordination and cooperation.

The moderate extent of librarians' role as digital information specialists (M=2.71) underscores the growing appreciation for their expertise in the new media. Awareness to the contribution of the SLMC might raise SLM specialists' self confidence and perhaps also their stand in the school. However, merely providing digital resources does not elevate the collaboration with teachers beyond the basic provision of materials. It is still "traditional librarianship" which perpetuates a supportive role rather than assuming the leading function advocated by *Information Power (*1998) which can impact student achievements.

Statistical analyses demonstrated that SLM specialists working in SLMCs equipped with advanced technological resources and facilities cooperate more frequently with teachers, and at a higher level, suggesting that the use of technology enables the expansion of their roles. The number of computers in the SLMC was correlated the strongest with the "curriculum planning" factor, corroborating earlier findings which concluded that cooperation was conditional upon technology and infrastructure (McCarthy, 1997, McCracken, 2001, Smith 2001). Work in an advanced technological environment triggers a psychological effect as well. Author (2006) revealed that librarians who perceive themselves as "information specialists" project a higher image and perhaps they also enjoy a more positive attitude from teachers.

Another factor influencing the degree of cooperation between SLM specialists and teachers relates to the school level. The results show that in junior high schools (grades 7 - 9) librarians cooperate with teachers more frequently and at a higher level than in six-year schools (grades 7 - 12). One explanation might be that most of the high school years are dedicated to focused study toward the final Matriculation examinations, leaving little time for research work in the SLMC. In contrast, junior high school teachers tend to include library work as an educational component, and thus they are more acquainted with the SLM specialists and their abilities. Another explanation might relate to the size of the schools, implicit in their level. Junior high schools are smaller units, facilitating closer relations between all staff members, and

librarians might feel more at ease to participate in the educational programme. Large high schools, with their focus on academic achievements, might view SLM specialists as providers of resources and collection administrators rather than as partners in the teaching and planning process.

11. 2 ILSA Educational Programmes

The results indicate that the extent of the respondents' involvement in programmes of information literacy was barely moderate. The ratings ranged from 2.63 for "conveying ethical conduct in the use of information" to 3.31 for "teaching information literacy skills". The statements "reading promotion", "teaching how to search" and "how to evaluate information resources" received highest ratings, proving that SLM specialists are still committed to the collection and its materials, as concluded also in earlier studies (McCarthy, 1997, McCracken, 2001). Lacking structured guidelines or specific requests from the school or the profession, SLM specialists continue their long-established tasks of instructing students how to locate information for their school assignments rather than exploiting the new information technologies in order to become essential agents in the learning process.

Are SLM specialists with teaching qualifications more effective in their educational work? The findings of the study are puzzling and contrast the literature which claimed that they are (Lance, Rodney & Hamilton- Pennell, 2005, McCracken, 2001). It appears that those lacking teaching credentials teach information literacy skills to a greater extent than teacher-librarians. One explanation might be that teachers employed as SLM specialists feel demoted, as in Israel their position, salary and work conditions are much lower than those of teachers. Therefore they shun involvement in educational work which, in their case, is not rewarded at its full value. Another possible explanation is that teachers became librarians in order to leave teaching and are not interested to resume this type of work, concentrating instead in informal instruction.

The study supports earlier findings (Neuman, 2003) that a rich technological environment is conducive to a higher involvement in ILSA programmes, concerning both teaching information literacy skills and fostering independent learning. One can also infer that SLM specialists working in SLMCs with Internet connection have a higher self-image and self-confidence and apparently also more expertise in the new communication media and thus they direct educational programmes more often and to a larger extent than those lacking Internet connection in their libraries.

11. 3 Relations between collaboration with teachers factors and involvement in ILSA educational programme factors

A decade ago, McCarthy (1997) found that SLM specialists who cooperate with teachers are implementing the *Information Power Guidelines* more effectively than those who do not cooperate. This study appears to support this conclusion: an ongoing relation with teachers, particularly in providing them information resources, is highly correlated with teaching ILSA programmes to students. Cooperation can empower SLM specialists, as it makes them feel on a par with teachers, equal members of the educational staff. Empowered librarians are undoubtedly more involved in educational activities which integrate the SLMC in the school programmes.

Correlations are not causal, and one cannot be sure of their direction. What is the cause, what is the effect? Might it be just the opposite, that self-assured SLM specialists who consider themselves part of the educational system and teach ILSA

programmes are also more inclined to initiate and maintain cooperation with teachers? Whatever the answer, empowered, self-confident SLM specialists can benefit the school and its students by transforming the SLMC into a genuine learning laboratory. The essential elements of learning environments that enhance achievement parallel closely the processes and opportunities provided in school libraries to foster information literacy (Loertcher & Woolls, 2002).

12. Implications and recommendations

The study has demonstrated that SLM specialists provide programmes of information literacy for students, despite the lack of formal guidelines or requirements. The low extent of their educational involvement is undoubtedly a function of the educational system's failure to recognize the powerful potential of SLM specialists in preparing students for the Information Age and to take full advantage of SLMCs. Librarians' stand in the Israeli educational system is lower than teachers' position, as librarians are considered support staff along with secretaries and lab technicians.

In order to break this vicious circle it is imperative that librarians take the initiative in collaborating with classroom teachers. Additionally, SLM specialists must design and deliver lessons that help students learn and apply relevant information skills. They must develop SLMC-based comprehensive information literacy programmes relevant to educational priorities, which convey lifelong learning abilities and socially responsible attitudes toward information access, creation and use.

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