THE CHANGING ROLE OF THE LEARNING RESOURCE TEACHER

CENTRE FOR NEWFOUNDLAND STUDIES

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The Changing Role of the Learning Resource Teacher

by

Pamela Phillips

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Abstract

This paper addresses the changing role of the Learning Resource Teacher in the modern school environment. Their job description has changed from the traditional librarian duties to assisting teachers to embrace information technology into their curriculum. The writer conducted a literature review on this topic and completed an internship with a Learning Resource Teacher at a local high school.

The literature review focuses on the expanded role of the Learning Resource Teacher to curriculum consultant, information technology expert, teacher, leader, change agent, and professional development coordinator. Resulting from the literature review, a questionnaire on teachers' perceptions of the Learning Resource Centre programs was developed and distributed to the teaching staff at the internship school. The results of the survey indicated a gradual movement to a better understanding of the new function of the Learning Resource Centre. Based on the results of teachers' perceptions on staff training and the literature review, a "just-in-time" training model was designed to demonstrate how the Learning Resource Teacher can coordinate staff development. This whole process has led the writer to a more practical understanding of the issues relating to the learning resource centre.

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Chapter 1: Introduction

Rationale for Choice of Internship

The writer chose this particular school as the Internship Site for three primary reasons. Firstly, a high school setting was preferred because it closely matched the writer's own work experience in a post secondary learning environment. Secondly, the school had a well-established learning resource centre which would provide valuable experience and permit close examinations of its structure and function within the school. Thirdly, the school is known for its commitment to ongoing professional development of its staff which is an area of particular interest to the writer.

The overall objective of the internship was to assist the Learning Resource Teacher in the daily management of the centre, to acquire the practical skills and knowledge in the area of school resources, to gain valuable experience as a team member in making the resource centre an integral part of teaching and learning within the entire school, and to study methods of enhancing the role of a Learning Resource Teacher in professional development.

The Internship Setting

The internship school had an enrollment of approximately 600 student. The new principal had demonstrated a strong interest in making the Learning

Resource Centre an active part of education. There were 40 teachers on staff including one full-time learning resource teacher, a principal, a vice-principal and guidance counsellor. The school was networked with the most current software applications and all students and teachers had access to an on-line account. Two full-time teachers in the computer area have assumed the role of network administrator and assistant network administrator.

Description of Anticipated Internship Experiences

This section lists the duties the writer had anticipated would be performed prior to participating in the Internship program.

1. Observe and assist Learning Resource Teacher in the daily management of the centre, namely answering telephone, checking out/in resources and shelving books.
2. Catalogue new materials using Columbia cataloguing software.
3. Place spine labels and cards on new books and electronic materials.
4. Arrange time schedules for classes coming into resource centre.
5. Assist and instruct students and staff in the location and use of media and computer equipment and applications.
6. Design a "Just-In-Time Training" model for on-site technology training for teachers.

7. Teach part-time in my related field.

8. Install software and trouble shoot equipment.

Research Component

The Research Question

How has the role of the School Library/Learning Resource Teacher changed in the information age?

The Methodology

The first step was the preparation of a literature review on how the role of the Library/Learning Resource Teacher has extended to involve technology. The role has changed to include new responsibilities associated with curriculum development, teaching, information skills instruction, leadership, and professional development.

The next step was to determine the teachers' attitudes towards and expectations of the Learning Resource Centre and Teacher. Based on the literature review and working closely with the on-site Learning Resource Teacher, a questionnaire was drafted, revised and distributed to all staff. The data was used to determine the areas of improvement seen by the staff as needed if the Learning Resource Centre was to become a key part in the school's curriculum.

The final step was to develop a model for the training of teachers on site using their own equipment and resources and to demonstrate how the Learning Resource Teacher can coordinate this staff training.

Self-Evaluation Model

A journal was kept of my daily activities and there was on-going reflection on my experiences at the school.

On-Site Supervision

Learning Resource Teacher and Principal

Faculty Supervisor

Dr. Jean Brown, MUN

Organization of the Internship Report

Chapter 2 is a literature review on the changing role of the Learning Resource Teacher in the information age. The review focuses on elements of the role as curriculum consultant, information technology expert, teacher, leader, change agent, and professional development coordinator.

Chapter 3 is a report of teachers' perceptions of Learning Resource Centre programs. This was obtained by conducting a voluntary survey at the internship school.

Chapter 4 reports on the design of the "Just-in-Time" Training Model developed by the writer as a result of the literature review and questionnaire.

Chapter 5 provides reflections on the internship based on the writer's experience at the internship site.

Chapter 2: The Changing Role of the Learning Resource Teacher

Introduction

The literature review was conducted prior to the Internship. The review revealed that a variety of titles are used for the learning resource teacher. These titles included learning resource teacher, library media specialist, and teacher-librarian. These will be used interchangeably in this review. The main focus of this review is on the elements of that role, whatever it is called, in the high school. The elements are: curriculum consultant, information technology expert, teacher, leader, change agent, professional development coordinator.

While still at the centre of the school's learning activities, the school library and the school librarian's role have changed over the years (Blake, 1994). Information technology has changed how information can be accessed and assimilated in the library media centre (Marchionini, 1991). Historically the media specialist has been responsible for building a book collection, scheduling and managing equipment and materials, and assisting students with using the library (Eisenberg and Berkowitz, 1988; Fast, 1975; and Moore, 1976). As a result of these traditional responsibilities, the traditional school library was seen by many as playing a passive role in education (Eisenberg and Berkowitz, 1988).

"Today's library media programs encompass library services and materials, computer education and distance education" (Grover, 1990, p. 69). More and more information, such as books and periodicals, are becoming available in electronic form and resources can be instantly copied, distributed and shared. As well, local area networks for CD-ROM databases and instructional software are common resources found in most schools (Marchionini, 1991). The library has become a place where students can read their favourite book, communicate with students locally, nationally and internationally, and "where teachers and library media specialist work together to use and teach information skills via on-line databases, computers and automated catalogues" (Grover, 1990).

Research indicated there are mixed views regarding the role of the library media specialist in this new technological library media centre. However, researchers (Blake, 1994; Eisenberg, 1991; Fast, 1975; Grover, 1990; Juchau, 1984; Marchionini, 1991; and Moore, 1973) have all noted common trends in the responsibilities and involvement of the library specialist over the years. They have concluded that the library specialist has become more actively involved in other areas of the school outside of the library as their role has expanded to that of: curriculum consultant, teacher, leader, change agent, expert in technology, and professional development coordinator.

The Teacher-Librarian as Curriculum Consultant

As there is an increasing reliance on technology in education and on the importance of information problem-solving skills, the library media specialists have the opportunity to make a positive impact on the quality of learning provided to students (Turner, 1988). Besides providing materials to be used in curriculum, the library media specialist can take a more active part by assuming a role as consultant on the use of information in curriculum and being actively involved in the decision-making process (Bock, 1977; Eisenberg and Berkowitz, 1988; and Fast, 1977). They can "identify materials and sources of information, find information on what is being proposed, recommend instructional strategy, know what skills students will need, and ensure integration" (Banighen , 1991, p. 10). Also Kroll (1994) suggested that they can help principals and classroom teachers to define what constitutes research and help "design academically rigorous long range assignments that acquaint students with suffocated problem-solving strategies" (p.72). Juchau (1984) further added that it is equally important to have the library media specialists be part of the team that designs curriculum guides at the teacher level to help "clarify objectives and select the mix of media and method which can be used most effectively" (p. 41). Many researchers stressed the importance of classroom teachers and library media specialists working

together to develop lessons that will integrate information technology skills into all subject area curriculum (Banighen, 1991; Bock, 1977; Burnett and McNally, 1994; Fast 1975; Groves, 1990; Johnson and Eisenberg, 1996; Juchau, 1984; Kroll, 1994; and Pillon, 1973. "It is through total curriculum integration that students will learn the skills they need" (Brown and Sheppard 1997, p. 207). Because of this, Kroll (1994) stated that it is important for the library media specialist to be familiar with the total curriculum, know the teachers' schedules and the materials they are covering, and "understand station wide initiatives, mandates, and national trends" (p. 74). As well, Moore (1976) and Pillon (1973) added that the library media specialist must include teachers when selecting resources to improve instruction. They consider this to be the first step in becoming an active consultant. According to Eisenberg and Berkowitiz (1988), both teachers and the library media specialists are "indispensable if the overall curricular goals of the school are to be reached" (p. 154).

The Teacher-Librarian as Information Technology Expert

The library media centre can be seen as the "gateway from information (and information systems) to subject area curriculum" and an active integral part of the entire educational program. (Eisenberg and Berkowitz, 1988, p. 153) The teacher-librarian can be viewed as "the essential link to connecting students,

teachers, and others with the information resources". (Brown and Sheppard, 1997, pp. 200-201) In this information age, society demands that students acquire information technology skills and that the school library media specialist be responsible for providing these skills (Blake, 1994; Marchionini, 1991; and Shantz,1994). The American Association of School Librarians (1994) and the Canadian School Library Association (1992) stated that the teacher-librarian is a key player in developing and implementing a school wide library program that will help students develop and master information literacy skills. As well, others (Eisenberg and Berkowitz, 1988; Hughes and Jackson , 1996; and Johnson & Eisenberg, 1996) agreed that teacher-librarians are the ideal candidates to ensure that technology is used in effective ways. They have noted that in many schools, administration, teachers and students already look to the teacher-librarian for guidance and assistance. As pointed out by Johnson & Eisenberg (1996) and Hughes and Jackson (1995), this is the result of automation projects, electronic research resources and computer labs located in or adjacent to resource centres. As well, all have noted that teacher-librarians have a clear understanding that for technology to have an impact on learning it must be accessible at all times to all students and staff.

Crowley (1995) and Marchionini (1991) suggested that the teacher-librarian, teachers, and students should be involved in the process of networking with other schools to borrow or loan resources and to learn new teaching methods or helpful information. Blake (1994) referred to this concept as a "virtual library", one where students and teachers can access information on-line from other schools, universities and public libraries. He further stated that for students to use information resources effectively the library media specialist must become directly involved in making this on-line access available.

Today's learning resource teacher must become experts in "the physical layout of the environment, the technology that supports it, and day-to-day adult supervision" (Burnett and McNally, 1994, p. 94).

The Teacher-Librarian as Teacher

Information technology has placed more emphasis on the library media specialist's role as teacher (Bangihen, 1991; Eisenberg and Berkowitz , 1988; Johnson and Eisenberg, 1996; Kroll, 1994; and Lesquereux , 1987). It is now common for most of the Canadian literature to refer to the librarian as a teacher-librarian. According to Bangihen, 1991; Critch, 1995; Johnson and Eisenberg, 1996; Kroll, 1994; and Oberg, 1990, teacher-librarians have moved from teaching isolated library skills to cooperative planning with teachers to create and

implement lessons which integrate the teaching of research and information skills into the classroom curriculum. Eisenberg and Berkowitz (1988) and Kroll (1994) explained that since the integration of information skills into the course curriculum, the library media centre has ultimately become a classroom and the library media specialist a teacher. As well, the library media specialists are involved in teaching students, teachers and administration how to use information technology systems such as the on-line catalogue and circulation system, CD-ROMS, and the Internet. Christensen (1991) recommended that the library media specialist teach "the information skills necessary for life-long learning" (p. 250). Similarly, Brown (1990) stressed the importance of teacher-librarians assisting teachers to acquire the skills needed to integrate new ideas into their classroom work. She further advocated that "as a professional group, our emphasis needs to shift from the strong advocacy role which characterized us in the '80s, to a more active teaching role in the '90s" (p. 22). Ely (1992) emphasized that teachers and teacher-librarians must "teach users how to formulate questions, stimulate curiosities, and locate answers to their questions using whatever medium delivers the best results" (p. 47).

Donham van Deusen (1995) stated "in the library resource centre, the instruction has to do with providing students with the intellectual tools to

accomplish work in content areas" (p. 16). He concluded, as did other researchers, that this can be achieved through the teacher-librarian working cooperatively with teachers to identify appropriate electronic and print resources and recommend ways in which those resources can be used in teaching and learning.

The Teacher-Librarian as Leader

"The onset of the information age could usher in the decline, if not the demise, of the library" since visual and sound graphics and information stored on databases are becoming more popular than printed materials (Blake, 1994, p. 11). However, to avoid this, it is up to the teacher-librarian to "not only be well trained in technology but also be assertive enough to lead and flexible enough to collaborate" (Marchionini, 1991, p. 185).

Many researchers called for the teacher-librarian to be a "leader of teachers" or obtain leadership roles in curriculum and instruction within their school or district (Banighen, 1990; Bock, 1977; Critch, 1995; Eisenberg and Berkowitz , 1988; Fast, 1975; Juchau, 1984; and Kroll, 1994). Eisenberg and Berkowitz (1988) and Fast (1975) stated that to be an effective leader in technology, the library media specialist must be flexible, open to change, willing to work cooperatively with people and have the interest and ability to use different media. In their study, Brown and Sheppard (1997), used four major categories to describe

the characteristics that today's teacher-librarians must possess. They are: knowledge base; technical skills; personal, interpersonal, and team skills; and values and beliefs. The teacher-librarian must have the knowledge and technical skills, a pleasant personality to effectively work with teachers and students and a commitment to resource-based and life-long learning. As Fast (1975) suggested, expanding the library media specialist role to curriculum consultant and innovator will no doubt attract educators with these qualities.

In addition, others (Burdenuk, 1993; Dohhan van Deusen, 1995; Hughes and Jackson, 1995 and Pillon, 1973) have pointed out that library media specialists who have these characteristics and are actively promoting the learning resource centre as an equal partner in classroom instruction will be successful leaders.

Holland (1994), Juchau (1984), and Shantz (1994) noted that the success of the learning resource centre depends on the relationship between the teacher-librarian and principal, and whether or not they share the same goals as to the types of services provided in the school resource centre. Brown and Sheppard (1997) stated that their research showed that "the principal's support can enhance or destroy the teacher-librarian's relationship with the staff, and thus success in the job (p. 210). Crowley (1995) stressed that the teacher-librarian must take the initiative to "develop a vision of how the library resource will fit" and ensure they

are a part of the restructuring team (p. 13). Shantz (1994) added that "it is the professional obligation of teacher-librarians to promote, support and advocate for not only school library resource centres, but for their jobs as teacher-librarians" (p. 23). They must become influential leaders in their school and the education system so that everyone is familiar with their role and the importance of the learning resource centre to education. As stated by Fast (1975), a few outstanding librarians already have managed to be recognized as a leader in their schools "despite and not because of their positions" (p. 38).

Brown (1995) stated that if teacher-librarians want to fulfil a leadership role, they "will need to be lifelong learners, to constantly seek new answers and solutions to educational problems, to stay in touch with the public, the students, and your fellow teachers" (p. 28). As well, several studies (American Association of School Librarians, 1994; Burnett and McNally, 1994; and Johnson and Eisenberg, 1996) pointed out that in the near future, if not already, the library media specialist will require expertise in the daily supervision of the centre and with the setup and maintenance of the technology resources available at the centre.

Crowley (1995) suggested that school restructuring will probably cause a change in the designation of leadership roles. He suggested that there is and will be an increase in "task-specific or situational leaders" who are mainly in the

classroom but assume part-time leadership roles. He concluded that the teacher-librarian will assume this type of leadership role.

Shantz (1994) stated "if teacher-librarians are then to accept the responsibilities of active involvement and a position of influence or moral power, it becomes clear that they are an important leader in the school" (p. 22).

The Teacher-Librarian as Change Agent

As teachers must change to deal with new technologies, the library media specialist must make changes by expanding their role to include developing consulting skills to work effectively with teachers (Kroll, 1994 and Moore, 1976). They further acknowledged that this is necessary to enable library media specialists to serve as school wide trainers and as educational leaders or change agents. Similarly, Brown (1995) stated that "for the teacher-librarian being a change agent means being an instructional leader" (p. 24). Oberg (1990) noted that "understanding the nature of change is essential to every teacher-librarian" (p. 9). She concluded that teacher-librarians are involved in the process of change when they are implementing or modifying a program or actively involved in some school improvement initiative. As well, others (Crowley, 1994; Kroll, 1994; and Moore, 1976) recommended that the teacher-librarian continue to play advocacy and leadership roles in their schools and take on the responsibility of introducing

new teachers to the school library programs. Crowley (1994) further suggested that the teacher-librarian must "provide as many information systems as required to meet the needs of the clientele and make aware that you are the person to come to when you have an information need" (p. 9).

It is clear that teacher-librarians must educate teachers, administrators and others as to the role of the teacher-librarian in the schools (Holland, 1994). The teacher-librarian must "encourage the development of information skills by working with and through teachers" (Irving, 1992, p. 44).

The Teacher-Librarian as Professional Development Coordinator

Professional Development or staff development arose in the 1980s and is seen as a key aspect of school improvement efforts (Sparkes and Loucks-Horsley, 1989). Brown and Sheppard (1997) stated that in the schools they studied teachers stressed the need for professional development in integrating information technology into the curriculum and in "how the teacher-librarian can be directly engaged in other forms of resource-based learning" (p. 206). Burnett and McNally (1994) and Eisenberg (1991) suggested library media specialists can play an important role in professional development for the curricular use of information technology once they have a clear understanding of how to effectively use this technology in education. They suggested that library media specialists can achieve

this understanding by learning the new technologies and keeping well abreast of the implications of the new learning theories, such as constructivist and collaborative learning. They concluded that the library media specialists then can advise, train and provide classroom strategies to teachers and administration; be the overall coordinator of library media services; and be a leader who will help link the information society to education.

Similarly, other theorists (Johnson, 1997; Juchau, 1984; and Turner, 1988) stated that because few teachers possess the sophisticated media skills and are not aware of what services the library has available to them, direct in-service training by the teacher-librarian should be offered on a continuous basis throughout the school year. Turner (1988) pointed out three areas in which it is important for teachers to continue to learn, namely: "technology of instruction; new, more effective methodologies; and skills needed in the area of information access that are rapidly changing" (p. 106). As well, he recommended that in-service training in these areas be conducted in-house at the school with the strong support of administration and with voluntary teacher participation. Willis (1993) stated that professional development or training today needs a different focus or strategy. He suggested that "just-in-time" learning should be the focus as today we have the

technology available to provide training "at the point of need and at the request of participants" (p. 25)

Sparkes and Loucks-Horsley (1989) summarized their study of the research on professional development into a list of effective practices for professional development. They suggested that professional development initiatives be conducted in the school and linked to school-wide efforts, that teachers choose goals and activities for themselves, that the emphasis be on self instruction with different training opportunities provided, and that training be continuous with ongoing support available upon request.

Given the teacher-librarian's close working relationship with teachers and administration, they would be effective leaders of professional development. In this role, they "must be aware of any pending training needs and be prepared to meet them as they arise" (Dyke, 1995, p. 38).

Table 1 is a synthesis of the main points in this literature.

Table 1: Elements of the Role of the Learning Resource Teacher: A Synthesis

ELEMENTS OF THE ROLE OF THE LEARNING RESOURCE TEACHER: A SYNTHESIS
Curriculum Consultant: - involved in curriculum decision-making process - identify resources - knowledge of skills students need - work cooperatively with teachers to plan lessons to integrate information technology into the curriculum
Information Technology Expert: - competent in using information technology software and equipment - committed to the "virtual library" - knowledge of ways to integrate information technology into curriculum - abreast of new technology, learning theories and teaching strategies - committed to life-long learning
Teacher: - teach research and information skills necessary for life-long learning - work with teachers to acquire information technology skills - assume part-time teaching duties
Leader: - well-trained in information technology - assertive and flexible - team player - good communicator - maintain collaborative relationship with principal - leader in curriculum development and professional development
Change Agent: - be actively involved in school improvement initiatives - promote development of information skills - educate everyone of the role of Learning Resource Teacher and Centre - promote school vision
Professional Development Coordinator: - have a clear understanding of how to effectively use information technology in education - be well-trained in new technologies and learning theories - recommend classroom strategies to teachers and administrators - coordinate on-going training and support at the school - work cooperatively with teachers and principal

Conclusion

Technology has exploded in every field of study, subject area, and aspect of life, and the Learning Resource Teacher has an opportunity to lead the way in its integration into the curriculum. Less than twenty years ago, computers were viewed as an interesting add-on to the physical resources of the school. Now their practical application is not only undeniable, it is unavoidable. Even though today there are mixed views regarding the learning resource teacher's role, it can be said they must become more active in the preparation of students for this reality. They are in a unique position to make a positive impact on learning through working cooperatively with teachers, becoming involved in curriculum, learning technology, and assuming leadership roles in professional development and other areas within the school. All of these factors have a tremendous impact on school improvement.

Chapter 3: Teachers' Perceptions of LRC Programs

Introduction

Based on the literature review and consultations with the on-site learning resource teacher, the writer drafted and revised a questionnaire (see Appendix A, pp. 43-45) to obtain data on teachers' perceptions of the Learning Resource Centre programs at the internship school. The questionnaire was distributed to 36 teachers on staff. A total of 24 questionnaires were returned which represents a 66.6% rate of response.

For statements 1-9 and 13-16 on the questionnaire, participants are asked for their level of agreement with a statement using a five-point scale of *Strongly Disagree* to *Strongly Agree*. Their responses are tallied and recorded in Table 2.

Table 2: Responses to Statements 1-9 and 13-16

Themes	Statement	SD	D	N	A	SA	NR
Use of Information Technology in Education	1. Education is moving towards the concern with development of intellectual skills and processes.		1	6	9	5	3
Use of Information Technology in Education	2. All students in the school need information technology skills.			1	10	13	
Use of Information Technology in Education	3 Information technology skills should be integrated into all subjects in the curriculum.		1	4	11	7	1
Role of LR Teacher	4. The learning resource teacher in this school is actively involved in curriculum development by working with teachers and administration to better utilize information in instructional settings.		1	2	14	7	
Role of the LR Teacher	5. One of the roles of the learning resource teacher is to help integrate information technology skills in all subject curriculum.		1	2	16	5	
Value of LRC and Programs	6. The learning resource centre is viable and valuable for learning.				10	14	
Value of LRC and Programs	7. I use the learning resource centre in my subject area.		2	3	15	4	
Value of LRC and Programs	8. I am aware of the learning resource services, materials and equipment available to me.				15	9	

Themes	Statement	SD	D	N	A	SA	NR
Value of LRC and Programs	9. I feel the learning resource centre at this school provides the services, materials, and equipment that teachers really want and need.		1	1	16	5	1
Role of LR Teacher	13. I arrange a time schedule with the learning resource teacher before bringing a class to the learning resource centre.	1		1	11	10	
Role of LR Teacher	14. I work with the learning resource teacher to plan and instruct my lessons	4	3	8	7	1	
In-Service Training	15. There is adequate in-service training provided on accessing information in the learning resource centre.		6	5	11	2	
In-Service Training	16. In-service training on accessing information in the learning resource centre is needed and important.			1	18	5	

For statements 10-12 on the questionnaire, participants are asked to check appropriate boxes or rate their experience in using information systems on a five-point scale of *Never* to *Always*. The responses to these statements are summarized in Table 3 below.

Table 3: Responses to Statements 10-12

In-Service Training Theme Information Systems Available at LRC (Statements 10, 11, 12)	Used by teachers and their students	Not Used by teachers and students	Percentage of teachers not accessing these systems who would if training was provided
OPAC	13	11	55%
World Wide Web	18	6	83%
Microsoft Word	15	9	67%
Microsoft PowerPoint	11	13	62%
E-Mail	16	8	25%
Outside Resources	13	11	
Periodicals	16	8	25%
CD-ROM	14	10	90%
Vertical Files	11	13	
Reference Materials	14	10	
Books	18	6	

Results

As shown in Table 2 and 3, all 16 statements are summarized into 4 themes:

1. Use of Information Technology in Education - (Statements 1-3)

2. Value of Learning Resource Centre and Programs - (Statements 6-9)

3. Role of Learning Resource Teacher - (Statements 4-5, 13-14)

4- In-service Training - (Statements 10-12, 15-16)

The results for each theme is discussed below.

Use of Information Technology in Education

As shown in Figure 1, approximately 95% of the teachers *agreed or strongly agreed* that all students in the school need information technology and 75% *agreed or strongly agreed* that it should be integrated in all subject curriculum. It was pointed out on the questionnaires by a number of teachers that Statement 1 was confusing. Upon reviewing the questionnaire, I noted a typing error. This might account for the high number of *Neither Agree or Disagree or No* responses to statement 1. Teachers and schools are recognizing that Information Technology is not exclusive to post secondary education but should be part of the secondary and elementary levels.

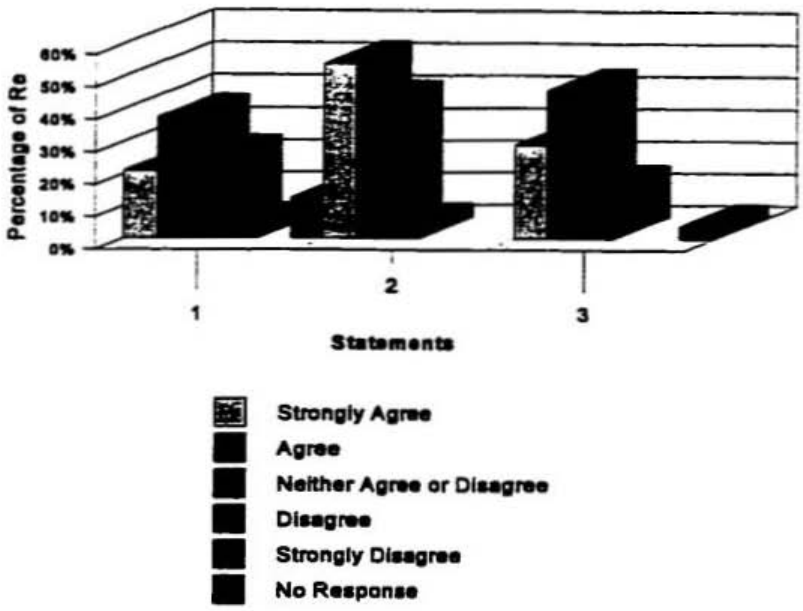

Figure 1: Use of Information Technology in Education
Responses to Statements 1-3

Value of Learning Resource Centre and Programs

Participants responded positively to the value of the Learning Resource Centre and its programs. As shown in Figure 2, 100% of the participants agreed or strongly agreed that they see the Learning Resource Centre as viable and valuable. Also they are aware of the services available at the LRC and feel the LRC provides the services and resources that teachers want and need. Though the results are not surprising, one must see these responses as positive and be encouraged by the general recognition of the value of these services.

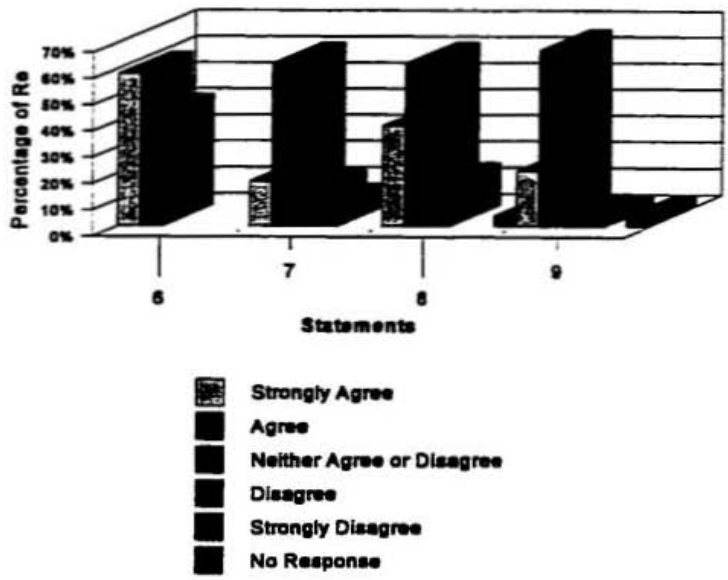

Figure 2: Value of Learning Resource Centre Programs
Responses to Statements 6-9

Role of Learning Resource Teacher

Referring to Figure 3, a high percentage of teachers agree that the Learning Resource Teacher at the Internship school is involved in curriculum development and feel this is a role that the Learning Resources Teacher should assume. As well, approximately 88% agreed that they pre-arrange a time schedules with the Learning Resource Teacher when bringing a class to the centre. However, the responses indicate that few teachers work with the Learning Resource Teacher to plan and instruct their lessons. The Learning Resource Teacher's new, expanded

role of curriculum consultant, teacher, and expert in technology is becoming known to teachers. Teachers are working cooperatively with the Learning Resource Teacher to integrate information technology in curriculum, however the Learning Resource Teacher must be far more proactive and promote awareness that they are available to help develop instructional lessons plans.

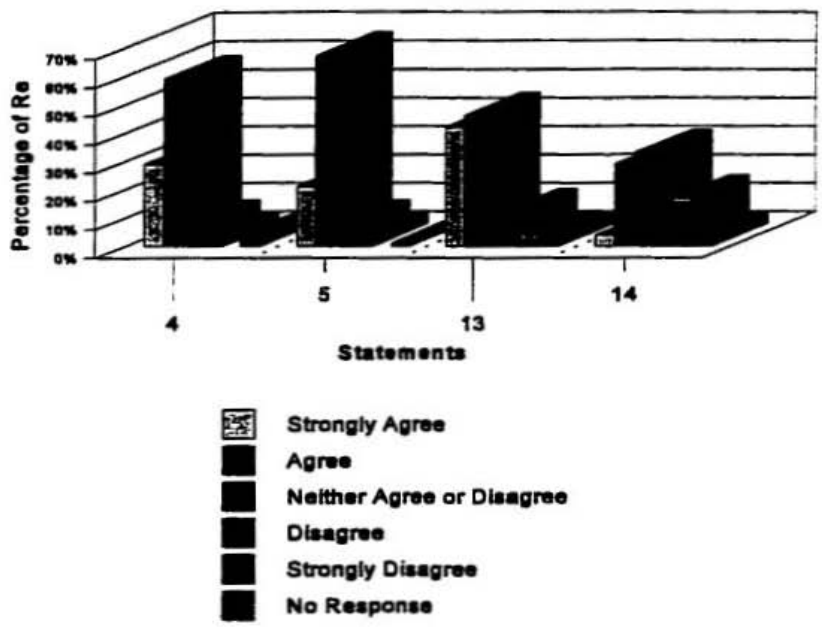

Figure 3: Role of Learning Resource Teacher
Statements 4, 5, 13, & 14

In-Service Training

As shown in Figure 4, almost all teachers *Agree or Strongly Agree* that in-service training on accessing information in the Learning Resource Centre is

needed and important. However, almost 50% felt that more in-service training is needed at the internship school. This relates to the responses on statements 10, 11, and 12 represented in Table 3. Teachers indicated that highest level of interest in-service training is in the areas of World Wide Web, Microsoft Word, PowerPoint and CD-Rom. The primary focus seems to be on increased accessibility of information and on tools that can assist in the presentation of curriculum.

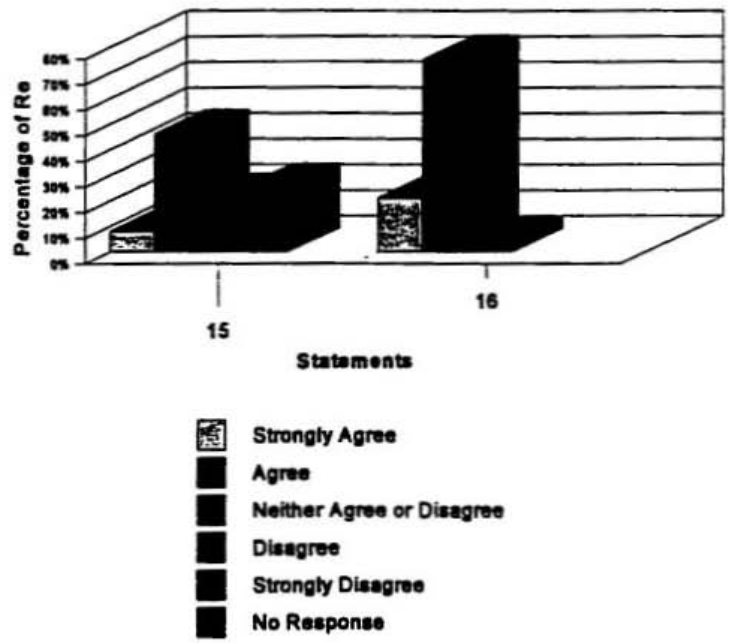

Figure 4: In-Service Training
Responses to Statements 15-16

Summary

Within the Internship school staff are clearly moving toward a better understanding of the role of learning resources and can articulate some of their specific needs in the area of information technology. It is also apparent that the integration of computer technology into all subject areas is recognized as potentially valuable only in general terms. To precipitate this process there must be a more direct strategy applied in the school. Some possible approaches might be by the Learning Resource Teacher independently developing brief instructional programs on specific topics in each subject area and presenting this material to the staff. The effect of this material would be two-fold. Firstly, it would provide specific examples of the function of information technology in the teacher's subject area which would move teachers from the broad understanding demonstrated in this questionnaire to a more defined view. Secondly, it would generate some feedback in the form of constructive criticism or an offer of collaboration between the teacher and the Learning Resource Teacher. It would certainly shift people from a declared level of interest to a commitment to practically apply learning technologies.

Chapter 4: "Just-in-Time" Training Model

The writer developed this "Just-In-Time" training model after reviewing the literature (See Table 3: Elements of the Role of the Learning Resource Teacher: A Synthesis), the results of the questionnaire, and consultations with the on-site supervisor (principal).

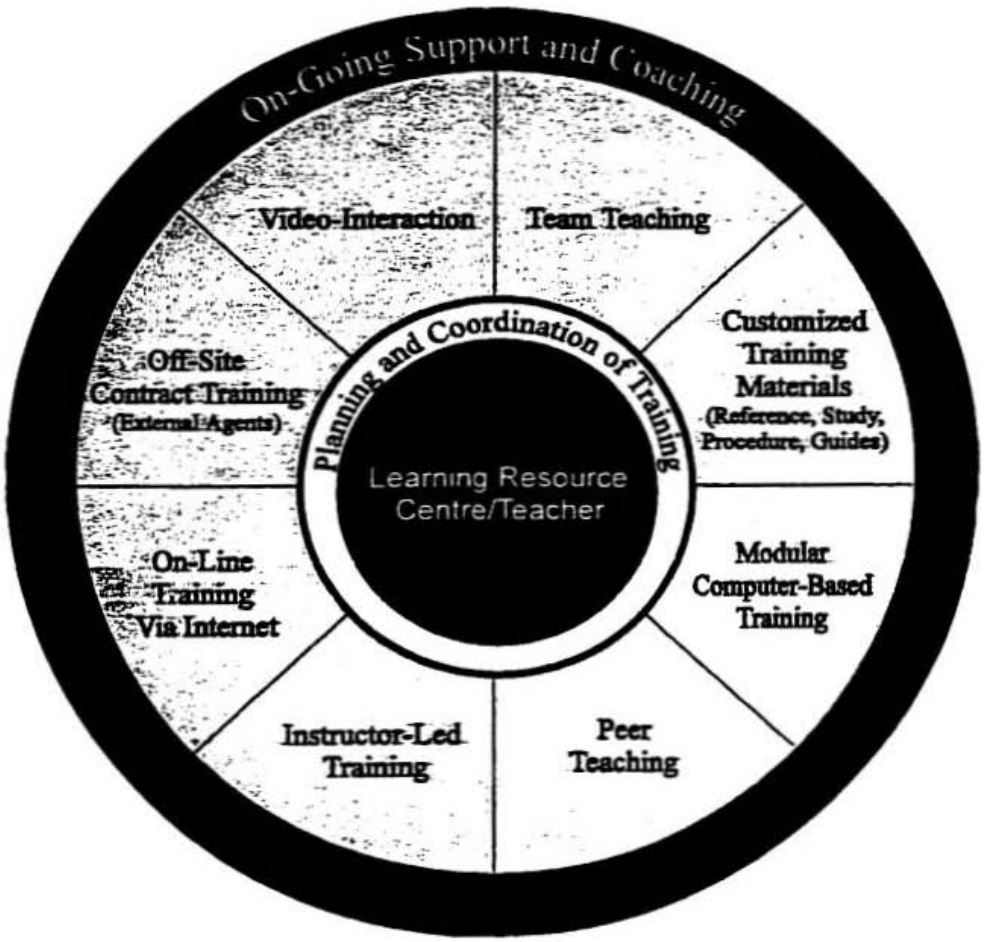

Figure 5: "Just-in-Time" Training Model

It was developed as a structure to follow when providing teacher training. As shown in Figure 5, the model is graphically represented by concentric circles encompassing each other.

"Just-in-Time" means "training needed has to be ready when the teacher is ready" (Dyke, 1995, p. 38). The model addresses the problem of finding time in the school year to provide teacher training. It emphasizes the importance of teachers being trained on-site, during working hours, and on a continuous basis throughout the school year. The model centers around the Learning Resource Teacher's leadership role in professional development and it accommodates the different modes of learning. It is recommended that any Learning Resource Centre program include this model for professional development.

The Explanation of "Just-In-Time" Training Model

Learning Resource Centre/Teacher

The model proposes that the Learning Resource Centre be the focal point of professional development activity. It is also recommended that the Learning Resource Teacher coordinate teacher training and that a section in the Learning Resource Centre be allocated for teachers to have daily access to the various delivery methods outlined in the model. It is important that teachers are able to

learn a new computer application at the point where they will actually use it in their lessons. At the centre of the model is the physical space and human resources required to initiate "Just-in-Time" training.

Planning and Coordination of Training

The next circle represents the actual planning process whereby the Learning Resource Teacher will plan and coordinate the training that teachers want and need. This circle represents the involvement and support of the school administration in professional development.

Delivery Methods

The sections in the next circle represent the various learning delivery methods that will be implemented to meet individual learning needs. It is expected that teachers will be independent learners who will select their preferred learning method. Some may prefer to avail of team or peer teaching as they learn better in groups than individually. Others may wish to select the modular computer-based training whereby they use customized manuals or other printed materials to work independently through the application software. Other forms of independent learning are on-line training through the Internet or by video-interaction. For those teachers who wish to receive instruction and guidance, they

may take advantage of the instructor-led training and maybe work through the customized manuals or use the Internet for reinforcement. As well, there will be times when teachers may request training in areas in which on-site training is not available and may wish to attend evening courses off-campus with approval from administration. The Learning Resource Teacher will prepare training materials or arrange for the materials and equipment to be available and provide or coordinate training.

Each form of training indicated in the various sections are briefly summarized.

Video-Interaction

Videos are available to instruct teachers on a multitude of subjects, including how to use various software applications. Teachers would use these videos to become familiar with the topic and prescreen its use in the classroom. The Learning Resource Teacher can establish a process where the Learning Resource Centre can act as a clearinghouse for educational videos and could locate and make these available.

Team Teaching

Learning Resource Teacher would facilitate and encourage teachers to work in groups or teams to acquire the training. This format can extend to working with teachers in their subject area at other schools.

Customized Training Materials

The Learning Resource Teacher provides training manuals, guides and other reference materials in a similar format to educational videos. In order to ensure that training be immediate, the Learning Resource Teacher may consolidate certain materials into formats that may be more useful to staff and less time consuming to learn.

Modular-Computer Based Training

Using the customized training manuals, teachers would work independently to master the software application.

Peer Teaching

The Learning Resource Teacher would facilitate, encourage and provide the physical environment for teachers to assist each other in acquiring information technology skills.

Instructor-Led Training

When a number of teachers are requesting training in a particular area, it may be more effective if an instructor is asked to give a one or two-day training session with on-going support.

Off-Site Training with External Agents

This represents the more traditional approach to professional development. In some cases, school boards provide workshops and seminars; however, fiscal restraint has greatly reduced the number of opportunities that occur under this format. The expense of external contracts will prove prohibitive and the level of priority which management places on a given subject will be the determining factor on when this approach is used. As well, research indicated that training is more effective if teachers are trained on the school's own equipment. It should be noted that some creativity on the part of the Learning Resource Teacher may lead to the acquisition of external training opportunities through community agencies and groups who would be eager to have input into the education system. Partnerships with businesses in the acquisition and training of computer software may be another avenue.

On-Line Training via Internet

This is the form of training that will likely dominate the future of professional development and will permit training to become more immediate and flexible. Hands-on tutorials on creating web pages or suggested learning activities to integrate the Internet into the subject area can easily be accessed.

On-Going Support and Coaching

Finally, the outer circle represents the follow-up stage whereby the Learning Resource Teacher will arrange or provide on-going support and coaching to the teachers after training. This is crucial to successful training since teachers will need help with troubleshooting and creating innovative ways to incorporate information technology into their subject areas.

Conclusion

The model shows different ways for teachers to receive training and support without interrupting normal classes. For it to be effective, the principal and Learning Resource Teacher must share similar commitment, views and goals as to the training that should be available, the degree of teacher involvement and the

role of the Learning Resource Teacher in professional development. If the Learning Resource Teacher keeps the cost of professional development at a minimum and teacher interest high, administration will no doubt be supportive.

Chapter 5: Reflections on the Internship

A large proportion of the time was spent on administrative duties in operating a Learning Resource Centre. These duties ranged from placing spine labels on printed materials to be catalogued and shelved to receiving and checking out resource materials. A small percentage of time was spent working with both teachers and students to collect information for a research paper and assist them in using Microsoft PowerPoint to present their findings to the class.

Duties did not include installing software or troubleshooting equipment nor included teaching duties which were previously described as anticipated internship experiences. At this school, the Learning Resource Teacher did have part-time teaching duties; however, the Network Administrator assumed the responsibility of installing software and troubleshooting equipment.

The Learning Resource Centre provided the most current information technology available to teachers and students. However, it was noted that the physical layout of the Learning Resource Centre did not include a section for teachers to use computers or receive assistance or training during working hours as there was only a minimum number of computers available for students.

Some on-site teacher-training in technology has been provided, however there are still teachers not utilizing the technology. I provided training on how to

use Microsoft PowerPoint to teachers who were teaching Language 2101, but this training took place after regular classroom hours. This supports the results of the questionnaire summarized in Table 3 which indicated that teachers are interested in training in the areas of Microsoft applications, World Wide Web and CD-Rom.

The "Just-in-Time" training model addresses these concerns as it recommends that a section in the Learning Resource Centre be allocated for staff training throughout the working hours and that the Learning Resource Teacher be responsible for ensuring resources, training and on-going support are provided.

Training in how to access information at the centre is provided to each new group of students. However, no specific training on how to use computer applications such as Microsoft Word or PowerPoint is provided in the Learning Resource Centre. Most students have completed these courses in the computer labs throughout the year. The Learning Resource Teacher encouraged teachers and students to utilize the Learning Resource Centre; and when given prior notice, will list possible subject headings and web sites to check when searching their topic. Little time is being spent on curriculum development and coordinating professional development. This may be contributed to the lack of assistance in the daily operations of the Learning Resource Centre or the undefined role of the Learning Resource Teacher. At times, teachers have sent students to the

Learning Resource Centre to write make-up exams, assuming that the Learning Resource Teacher will be present to supervise. This may be one possible reason for the 33% rate of non-participation to the questionnaire. Some of these teachers may feel the Learning Resource Teacher or Centre plays no important role in their subject-area.

The principal, who has a background in learning resources, sees the Learning Resource Centre as an integral part of teaching and learning. Support and encouragement is provided to expand the role of the Learning Resource Centre. Some students use the Learning Resource Centre productively, however, a number of students see it as a gathering place to socialize. To capitalize on their presence, the Learning Resource Teacher, administration, and teachers must create activities that will be interesting and at the same time providing them with the skills to access and interpret information. To accomplish this, everyone on staff must be comfortable with using information technology and the Learning Resource Teacher must be responsible for providing continuous training and assistance.

For many years the use of information technology has represented a challenge to the educational system. The intricacies of application software and the technical complexities of supporting hardware made many teachers keep their distance from computers. Now the immense popularity of the Internet has

changed the equation with a high level of interest among students. The support of administration and increasing student interest offers a tremendous opportunity to tap this new avenue of learning. This school's learning resource program and the role expectation for the learning resource teacher appear to be heading into a direction that is generally recognized by researchers as most appropriate for the current educational context.

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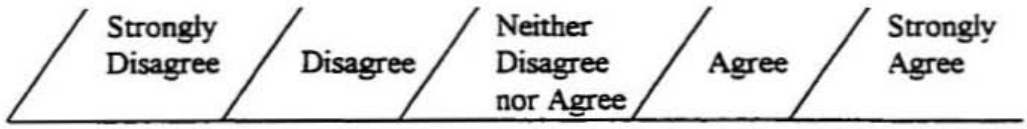
APPENDIX A

Questionnaire

To what degree do you agree with the following statements. *Circle* the appropriate letter to the right of the statement using the five-point scale given below. **SD** - strongly disagree; **D** -disagree; **N** - neither disagree or agree; **A** - agree; **SA** - strongly agree



Note: *Information Technology skills* refers to any tool used to research, assimilate, retrieve, organize, distribute and present data.

1. Education is moving towards the concern with development of intellectual skills and process.	SD	D	N	A	SA
2. All students in the school need *information technology skills*.	SD	D	N	A	SA
3. *Information technology skills* should be integrated into all subjects in the curriculum.	SD	D	N	A	SA
4. The learning resource teacher in this school is actively involved in curriculum development by working with teachers and administration to better utilize information in instructional settings.	SD	D	N	A	SA
5. One of the roles of the learning resource teacher is to help integrate *information technology skills* in all subject curriculum.	SD	D	N	A	SA
6. The learning resource center is viable and valuable for learning.	SD	D	N	A	SA
7. I use the learning resource center in my subject area.	SD	D	N	A	SA
8. I am aware of the learning resource services, materials and equipment available to me.	SD	D	N	A	SA

		SD	D	N	A	SA
9.	I feel the learning resource center at this school provides the services, materials, and equipment that teachers really want and need.					

10. Check the variety and range of information systems used as sources of information by you and your students at this school's learning resource center

- ☐ Computerized library catalogue system (OPAC)
- ☐ World Wide Web
- ☐ Microsoft Word
- ☐ Microsoft PowerPoint
- ☐ E-mail
- ☐ Accessing outside resources (School Board Media Center, Dept. of Education Video Library, etc.)
- ☐ Periodicals
- ☐ CD-ROM
- ☐ Vertical files
- ☐ Reference materials
- ☐ Books

11. Rate your experience in using each of the following information systems using the scale: **N**ever, **S**eldom, **O**ccasionally, **O**ften, **A**lways. Circle the appropriate letter in the right column.

Computerized library catalogue system (OPAC)	N	S	OC	O	A
World Wide Web	N	S	OC	O	A
Microsoft Word	N	S	OC	O	A

Microsoft PowerPoint	N	S	OC	O	A
E-mail	N	S	OC	O	A
Periodicals	N	S	OC	O	A
CD-ROM	N	S	OC	O	A

12. If you answered **never** or **seldom** in Question 11, then check below the information systems you would use if training was provided. (If not applicable, proceed to Question 13.)

___ Computerized library catalogue system (OPAC)

___ World Wide Web

___ Microsoft Word

___ Microsoft PowerPoint

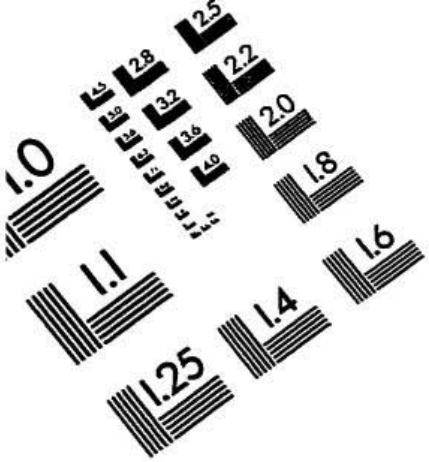
___ E-mail

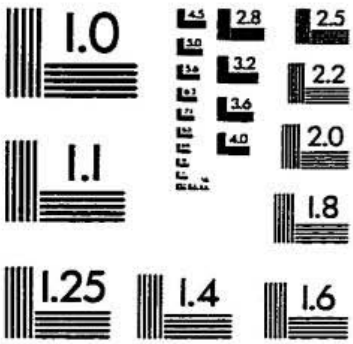
___ Periodicals

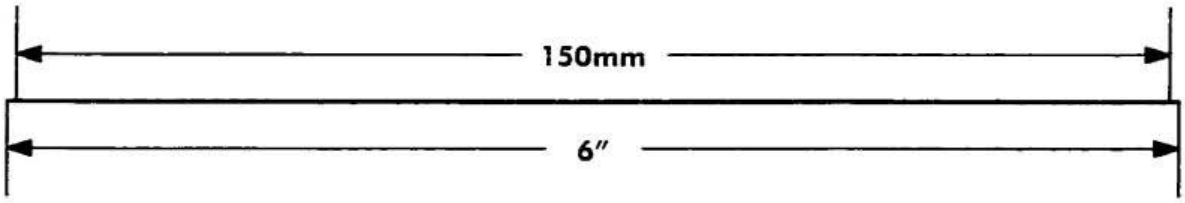
___ CD-ROM

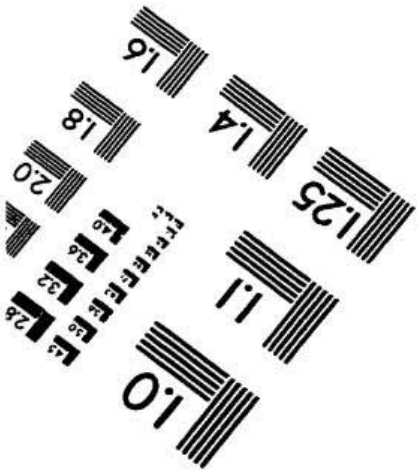
13 I arrange a time schedule with the learning resource teacher before bringing a class to the learning resource center.	SD	D	N	A	SA
14 I work with the learning resource teacher to plan and instruct my lessons.	SD	D	N	A	SA
15 There is adequate in-service training provided on accessing information in the learning resource center.	SD	D	N	A	SA
16 In-service training on accessing information in the learning resource center is needed and important.	SD	D	N	A	SA

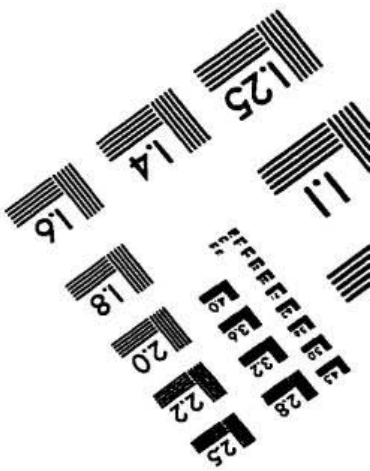
TEST TARGET (QA-3)











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