

# THE INCORPORATION OF SCHOOL LIBRARY E-RESOURCES WITHIN AN E- LEARNING ENVIRONMENTS AND THE SATISFACTION LEVELS OF E-RESOURCES: A CASE STUDY IN SAUDI ARABIA

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## Abstract

School libraries basically support the students' learning process. They provide students with information in addition to the formal course contents. However, interaction between learners and school libraries suffers from many limitations, such as, the lack of qualified librarians, and the time limitation as to how often students are able to access school library resources. This study proposes the incorporation of school library e-resources among stakeholders, namely the students, teachers, and librarians in an e-learning environment. There has been wide recognition of the importance of collaboration between educators and librarians to serve the education process. The literature suggests that there is no formal collaboration between stakeholders in the course of the proposing, acquiring and utilising of e-library resources. The objectives of the study are firstly, to create a web-based tool to define different scenarios, roles and learning cycles that support different interactions for an e-library system within e-learning environments. Secondly, to investigate the level of satisfaction quality of students usage using the rating scale of each e-resource in the integrated environment. Thirdly, to examine the satisfaction level of e-resources proposed by students. The study methodology used mixed methods; with a web-base tool for data collection. This study was carried out at Al-Bayan Model Girls' Secondary School, Jeddah, Saudi Arabia. The study findings showed that 92.2% of the students were satisfied by rating the e-resources excellent, only 1% of the students were unsatisfied by rating the e-resources unfavorable. In addition, 2.7 % of e-resources were proposed by students. This indicated that there were good number e-resources in the web-base tool. Therefore, the eventual intent of the web-base tool is to improve the quality of school library e-resources to support Science curriculum in the e-learning environment, and provide greater opportunities to fulfil students' needs with less time and effort.

## Introduction

School libraries were initially intended to enhance education by providing students alternative educational material. Students accessed school libraries either through supervised activities by the librarian or on their own. The emergence of information and communication technology (ICT) has made a paradigm shift in the way that education process is managed to introduce e-learning systems. Yadav (2007, p.v) stated that in a rapidly changing environment, libraries must continue monitoring trends, seeking feedback for users, and expanding the amount and varieties of high quality information via the Web. Along with, Lamb and Callison (2005, p. 29) deem that structure an e-library will progress the experience of online students, and it is essential that the students have the information skills needed to be successful in the e-learning environment. However, interaction between school libraries and students bears from many limitations. For example, in a traditional school library, according to Wee and Abu Bakar (2006), there are poorly maintained tools, deficiencies of tools, poor network infrastructure, and out-of-date equipment, which are major obstructions to the integration of ICT tools in teaching and learning processes. In addition, as said by Abuzaid (2005), the lack of qualified librarians, and the time limitation in consider to how often students are able to access school library resources are major limitations. Recently, there is a broad recognition of the importance on the incorporation of library e-resources in the framework of e-learning environment. The library e-resources are expected to provide tremendous added-value to the e-learning process. Though this incorporation may add an extra load on students and schools, but newly emerged information technology (IT) would largely ease this issue.

## Background of the study

International Federation of Library Associations (IFLA) (2006) publicized that “it has been demonstrated that when librarians and teachers work together, students achieve higher levels of literacy, reading, learning, problem-solving as well as information and communication technology skills”. Furthermore, IFLA (2006) school library manifesto stated that is meant “to provide information and ideas that are fundamental to functioning successfully in today's information and knowledge-based society. The school library equips students with life-long learning skills and develops the imagination, enabling them to live as responsible citizens”. Librarians and teachers collaboration has become a 21st century trend. Jordan (2007) mentioned that one of the trends of the Online Computer Library Center (OCLC) is to increase collaboration. Moreover, American Library Association (ALA) (2005) Human Resource Development and Recruitment, Careers in Libraries, one of the librarian's obligations is to “collaborate with other educators” and “introduce students to the latest e- resources”. The librarians have to increase their traditional responsibilities and work more closely (collaboratively) with students and teachers to provide proper tools, materials, resources and instructional services (Bargellini & Bordoni, 2001). Morocco et al. (2008, p.18) mentioned that “students must learn how to use technology tools to represent complex concepts in multiple ways to sort, categorize, and attribute information, and to compose with digital and media tools”. Additionally, the librarian could work as an information coach and teacher advisor who incorporate with other teachers to build an enrich environment in schools where students' success is improved (Champlain, Loertscher & Eib , 2004). This background emphasizes the need of involving students, teachers and librarians in formally collaborative web-based tool to offer relevant e-resources to support curriculum, and therefore have better satisfaction from the stakeholders.

## Web-based Tool Conceptual Framework and Scenarios

The incorporation of school library e-resources within e-learning environments has been a lacking feature. Though school libraries have existed for a long time but their role has always been regarded as optional. The conceptual framework of the web-based tool is formally a collaborative e-resources management system; for acquiring, utilising, and helping in continuous collaborative e-resource filtering and refining, based on students' feedback. As learning become a social process and is mostly realized through collaboration, the study suggests grouping the different e-learning stakeholders into three categories namely: Student, Librarian and Teacher. They collaborate through many learning cycles to support the aims of e-library-supported e-learning in formal collaborative way as defined by Abuzaid and Singh (2007) **Student** initiates an acquire for an information resource. Upon the endorsement or rejection of the student's request, the student receives either a notification of e-resource acquisition or a notification about similar e-resources. The links of similar e-resources are sent to the requester consequently. In addition, the student can search and browses e-resource on different subjects, and rates their appropriateness. **Librarian** receives and reviews the students' requests list. If there are similar e-resources already available, she rejects the request and sends feedback to the student as notification that there are similar e-resources available. Links to similar e-resources are included in the notification. If not available, the librarian temporarily adds requested e-resource details and seeks teacher's endorsement to consider adding the requested e-resource to the e-library collection. If the teacher does not make her endorsement within three days, the librarian approves the e-resources and makes it viewable by students. **Teacher** browses the e-resources list forwarded by the librarian. She can review and endorse any of the listed e-resources that will be activated later by the librarian. If she considers any e-resource as inappropriate or it is not feasible to be added, she posts a rejection comment and sends it back to the librarian. Therefore, the librarian adds another e-resource details and the cycle is restarted by sending the newly added e-resource to the teacher for endorsement. The cycle is repeated until the appropriate e-resource is successfully endorsed and made viewable to the students. Later, the librarian can monitor the available e-resources used by students and teachers. The conceptual framework is shown in figure 1.

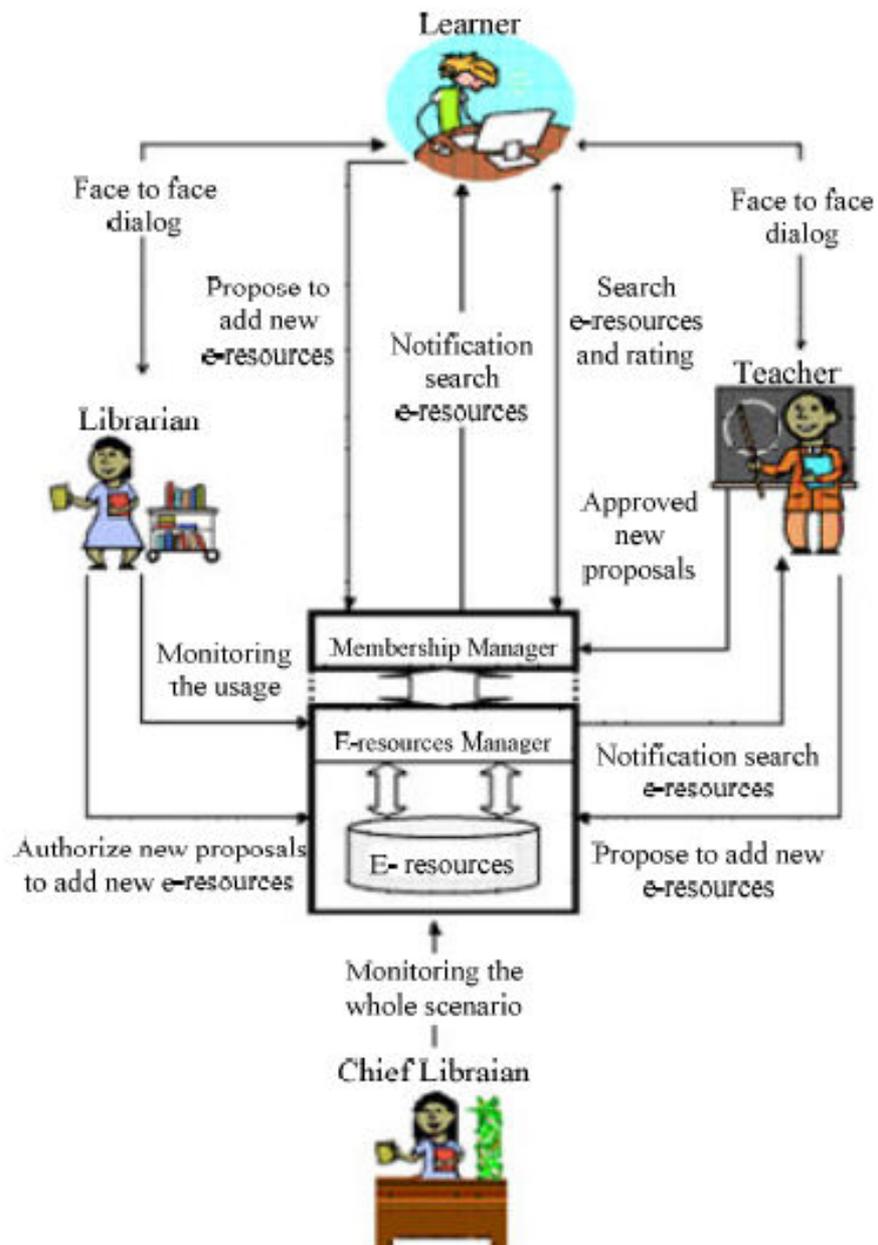


Figure 1. Conceptual Framework (Abuzaid & Singh, 2006)

The conceptual framework is shown in UML swim lane outline figure 2.

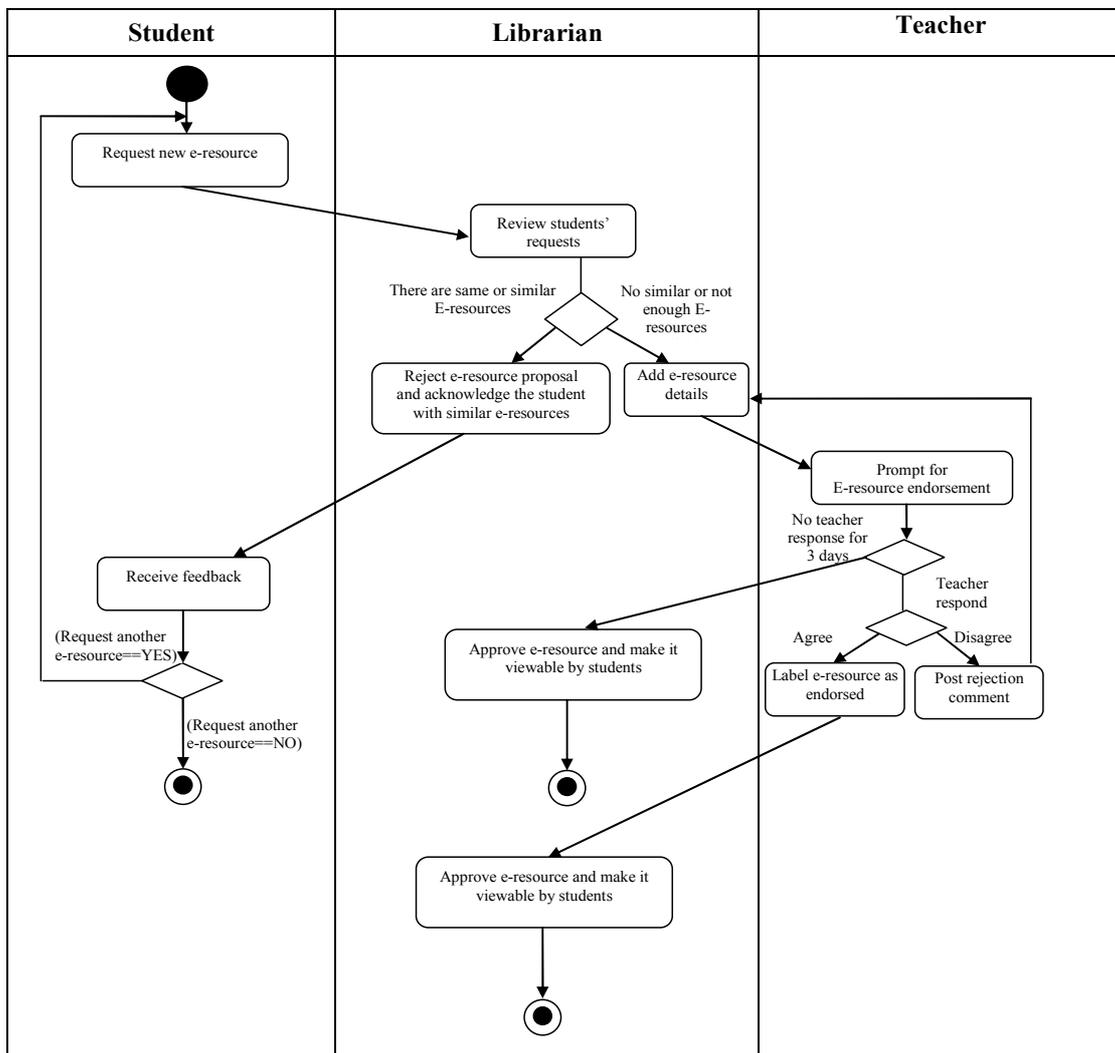


Figure 2. UML, Swim Lane, Outline of a conceptual framework for school library e-resources supporting an e-learning environment (Abuzaid & Singh, 2007)

The following figure 3 shows the login page for the student. The interface was in Arabic language.



Figure 3. student's login page

The student searches the database by the key words, after she selects the type of resources, as it is shown in the following figure 4.



Figure 4. student search page

The student had the opportunity to propose an additional resource, as it is appeared in figure 5 this proposal will be sent to librarian and endorsed by the teacher.



Figure 5. student proposal

Student received a message upon her proposal from librarian that the additional resource has been added, as it is appeared in figure 6.



Figure 6. message from the librarian

Student can edit her personal details, as it shown in figure 7.



Figure 7. edit student's data

### E-Learning Environment Host System

The e-learning environment in Al-Bayan School Model Girl's Secondary School in Jeddah was to enhance teaching and learning processes. A number of administrators were monitoring the process was. In addition, it was acting as a host system for the web-based tool; implementation was not an easy task.

According to Comerchero (2006) declared that e-learning helps students include self-motivation, communication, and efficiency into their learning. Furthermore, Watanabe (2003), computer-supported educational systems have been developed as one stimulation to apply the capacities of computers to different educational fields, and promote the activities of students; e-learning was described by this technology, and refers to various learning scenarios where technology plays a major role in the delivery of the educational content. MGD - report (2003) stated that the requirements of the network design were to supply an infrastructure which allows the following functions:

- E-Learning process.
- Classroom Collaboration.
- E-Mail.
- User Data Backup.

Considering these functions, the design has to meet the following non-functional requirements: availability, cost-effectiveness, extensibility, performance, reliability, and scalability. To grant the school with e-learning process, the school administration outsourced all the technology requirements to MGD since September 2002. According to Hassan (2004), Khaled Al-Dhaher, Microsoft Arabia's general manager said "Al-Bayan Model School for Girls, has switched over to e-learning" and that the program is centered on an "e-class" server which facilitates the learning process. The girls come with a tablet PC to follow the Ministry of Education-approved curriculum, which is completely electronic.

### The Study Methodology

The researchers conducted mixed methods for data collection. The study covered all 116 students from 7th grade, 8th grade, and 9th grade who are enrolled in e-learning environment (e-classes) in Semester 1 and 2 of the school's 2007/2008 academic year, at Secondary School of Al-Bayan Model School for Girls Jeddah, Saudi Arabia.. The researchers interviewed all students, and analyzed the web-based monitoring system (web analysis). The researchers implemented science subject only into the e-learning environment.

### Findings

This study applied web-based monitoring system analysis, and interview to examine the students' satisfaction of e-resources.

### Interview Findings

The interview instrument has the following questions:

1. What are the tool favourable characteristics?

**Table 1. favourable characteristics**

Characteristics	Frequency	Percent
Fast + Easy	58	50.0
Accurate information	40	34.5
Linked to science subject	14	12.1
Other	4	3.4
<b>Total</b>	<b>116</b>	<b>100.0</b>

Table 1 shows 50% of the students said that fast and easy were the most favourable characteristics of the tool, and 40% of the students were saying accurate information. This indicates that fast plus easy are the most favourable characteristics for students, the researchers referred this finding to the natural behaviour of young youth preferring speed and easiness to finishing up tasks.

2. What are the tool unfavourable characteristics?

**Table 2. unfavourable characteristics of the tool**

Characteristics	Frequency	Percent
Having only science subject	76	65.5
Technical problem	22	18.9
Inadequate information	18	15.5
<b>Total</b>	<b>116</b>	<b>100.0</b>

Table 2 shows that 65.5% of the students unfavourable of having only science subject. The researchers believed that this is a very good indication to support the satisfaction of the tool in general, and their desire of having more subjects implemented into the tool. However, only 18.9% of the students have shown unfavourable characteristic of having technical problem.

### Web Analysis Findings

The researchers analyzed the web-based monitoring system by programming statistical accounting code to give the actual measurement of students' usage. The students used a fine-scaled Likert measure to response the statement as it appears in table 3.

**Table 3. response weighted scale**

Response	Weight
Very Disagree	1
Disagree	2
Average	3
Agree	4
Very Agree	5

To understand the overall response (In Mean) the researchers gave each statement weighted mean as it is shown in table 4.

**Table4. response weighted mean for response**

Weighted Mean	Overall Response (In Mean)
From 1 to less than 1.8	Very Disagree
From 1.8 to less than 2.6	Disagree
From 2.6 to less than 3.4	Average
From 3.4 to less than 4.2	Agree
From 4.2 to 5	Very Agree

Table 5 describes the overall mean of e-resources rating among the students; the overall mean is 4.87 which mean that the students satisfied usage of e-resources. The researchers refer this to qualified e-resources because of the collaboration choosing process between librarian and teachers.

**Table 5. overall mean of e-resources rating**

	N	Minimum	Maximum	Mean
E-Resource Rating	116	1	5	4.87

Table 6 shows 92.2% of the students were giving the e-resources that they have used excellent. 1% of the students gave unfavorable for using e-resources. The researchers conclude that most of the students were satisfied.

**Table 6. E-resource Rating**

	Frequency	Percent
Unfavorable	1	.9
Good	3	2.6
Very Good	5	4.3
Excellent	107	92.2
<b>Total</b>	<b>116</b>	<b>100.0</b>

Table 7 shows number of e-resources used by students. Most of the students used 1-2 e-resources, because they have accessed the internet and having more e-resources along with the tool.

**Table 7. number of e-resources has been used**

	Frequency	Percent
1	34	29.3
2	34	29.3
3	18	15.5
4	3	2.6
5	3	2.6
6	2	1.7
8	3	2.6
9	4	3.4
10	3	2.6
12	6	5.2
13	1	.9
14	1	.9
21	2	1.7
27	1	.9
50	1	.9
<b>Total</b>	<b>116</b>	<b>100.0</b>

Table 8 shows 2.7% of the students' proposed e-resources. The researchers believed that this is referred to the formal librarian teacher collaboration acquisition which is the tool conceptual framework. Furthermore, 16.3% of the students were proposing for additional e-resources, because there are 1550 e-resources in different digital format stored in the tool database.

**Table 8. students' proposed e-resources**

	N	Frequency	Percent
Students' proposal	19	42	2.7

### Conclusion

In summary, the satisfaction of using e-resources of web-based tool has been generally satisfied and accepted by the students. Thus, the incorporation of school library e-resources within e-learning environment must take a place, and schools in developing countries need to be redefined and addressed conceptual framework of the web-based tool that collaboratively provides relevant e-resources to support school library mission. Through this system architecture,

and real practice scenario of e-resources can play a major role in supporting and enhancing the e-learning environment in schools.

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