

# Stakeholders' Perceptions of Quality and Potential Improvements in the Learning Resources Centers at Omani Basic Education Schools

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## Abstract

This study attempts to investigate the stakeholders' perceptions of quality and prospective improvements in the learning resources centres (LRC) at Omani basic education schools. It focuses on different aspects of the LRCs: organisation, human resources, technological, and educational aspects along with the difficulties faced by these LRCs and ways to improve their quality and evaluation. Five questionnaires for all types of stakeholders were designed, validated and implemented. Findings show that the services have yet to be improved and reach better levels of quality standards since they are not 'always' implemented with quality. Evidence shows that the need for retaining LRC specialists was insurmountable. A training model for the Omani schools was recommended in light of the Technological Pedagogical Content Knowledge (TPACK) and International Society for Technology in Education (ISTE) criteria and competencies.

**Keywords:** stakeholders' perceptions, quality, learning resources centres, Oman, basic education

## 1. Introduction

A Learning Resources Centre (LRC) can be defined as an educational institution based on 'teaching, learning, and research' supported by interaction with teachers for guidance on the use of IT in education; including net-based information resources and audio-visual media with electronic educational programmes and courseware for e-learning (Bang, 2003). It is a service facility with trained staff who design, produce and evaluate various instructional and media development resources for group and individual learning/training according to pre-determined instructional objectives. The objectives of an LRC can be summarised in achieving the institutional goals and objectives; providing a wide range quality service; improving the instructional process and quality of teaching; and encouraging learners' self-development and continuous education (Al Musawi, 2004). The purpose of establishing LRCs is to create the best possible framework for the facilitation of the learning environment of the students and of the teachers and researchers (Bang, 2003). LRC functions may include equipment/media maintenance, circulation, classification, indexing, retrieval, distribution, and production (Schmidt & Rieck, 2000).

The following sub-sections provide an in-depth account of the main issues of LRCs from the organisational, human resources, technological, and educational aspects to the quality indicators for LRCs. Challenges to LRCs will also be discussed by focusing on the Omani context in this field as an introduction to investigating the stakeholders' perceptions of quality and prospective improvements in the learning resources centres at Omani basic education schools.

### 1.1 The Research Problem and Importance

The LRC staff need gain experience and competencies that reflect 21<sup>st</sup> century skills, such as critical thinking, communication and technology skills. However, experiential evidence shows that Omani LRCs are challenged with the lack of necessary competencies and characterised by a poor performance and low morale among their staff (Al Musawi, 2010). This study attempts to investigate the stakeholders' perceptions of quality and prospective improvements in the learning resources centres at Omani basic education schools in order to help the Ministry of Education decision makers to plan a learning resources strategy considering the existing status and its future implications.

## 1.2 Relevant Literature

The role of LRC occurs with regard to the use and adoption of information and communication technology (Al Musawi, 2004; Healthlink Worldwide, 2003; OECD, 1998). The introduction of the concept of a learning resources centre indicates a major shift in the service provision; it is no longer a plain book library. Simmonds and Andaleeb (2001) asked whether users remain in need of “physical libraries if almost everything can be accessed electronically”. Therefore, the LRC specialist’s pre-service preparation should reflect this new shift. Moreover, the advent of the new digital technologies coerced the LRC specialist role to encompass three dimensions: technological, educational and administrative. Kononets (2015) indicates that electronic educational resources, which provide the achievement of pedagogical, and didactics aims are, no doubt, as with the use of ICT and web-technologies, a possibility of organising of the individual work of students and considerably increasing its quality. Lance (1994) finds that “the size of the library media centre’s total staff and the size and variety of its collection are important characteristics” of LRCs. Continuous professional development is necessary to LRC staff to keep abreast of innovations. In order to stay updated in the field of technologies and techniques, the specialists should be encouraged to read new literature and use professional writings relevant to their LRC’s field of work.

The instructional design services of an LRC should contribute investigative efforts into the educational role of the centre in academic activities. Conducting workshops on educational innovations and learning theories applications in e-Learning should be a major activity for instructional designers. They should work with faculty members and subject matter experts to design and develop locally produced instructional media and resources for their students’ needs (Al Musawi, 2004).

### 1.2.1 Challenges to LRCs

LRCs may suffer from a resistance to innovation because of the inadequate understanding of the technological setting, new or different teaching techniques, and the use of educational technology because of conservatism and technophobia (Al Musawi, 1995). Other barriers include potential deterrents such as cost, loss of autonomy, inflexibility, inaccessibility, unreliability, unfamiliarity and lack of appropriate software. These issues can be resolved by the comprehensive vision of appointing skilful LRC administrators to be responsible for overseeing the implementation, achieving economies of scale and minimising costs, and ensuring a collective institutional participation in promoting and implementing new technological innovation (Al Musawi, 1995; Hayes & Barclay-Pereira, 2001).

### 1.2.2 Quality standards of LRCs

Quality is a set of standards through which the degree of a centre’s success in achieving its goals and objectives is measured. To be of high quality, an LRC needs to (Al Musawi, 2004):

- 1) Obtain a mission statement in order to gain academic credibility.
- 2) Work as a general consulting service for instructional problems where lecturers as well as students are being trained to understand and use newer technologies. This helps the LRC to become a viable and indispensable entity and gain credibility with continued financial support in budgeting for its equipment and materials.
- 3) Collaborate with teachers through a professional development strategy.
- 4) Conduct a comprehensive evaluation of its output.
- 5) Conduct research surveys, and;
- 6) Contribute in teaching activities.

Bang (2003) emphasises that the LRC role may lead to fundamental changes in the pedagogical rationale of the college, and calls for the establishment of a learning exploratorium that has enormous professional, organisational and educational implications for the learning environment of the college; and therefore the establishment of the LRC demands new thinking of the pedagogical practice. In the LRC technology-based learning environment, knowledge should be shared but also individualised, personalised, and democratised as the learner’s role is in the centre of the instructional process considering his/her pedagogical, psychological and social characteristics, with the teacher acting as a coach, initiator and facilitator.

On this basis of supportive learning, the LRC needs to provide an opportunity for all students to participate in its activities, support their ideas, secure their participation, and utilises information about students with special needs. According to Xu (2005), LRCs in the information age make students to grow “into life-long learners who are information literate and can access, evaluate and use technology and resources critically, creatively,

effectively and efficiently”. He states, “In the 21<sup>st</sup> century school, LRC learners access technology and resources effectively and efficiently, and train themselves to become information literates, independent learners and socially responsible persons”. Sharing materials and resources that other instructors can adapt and use recognises the value inherent in team work and the improvements in thinking that will emerge from the collaboration. Learning resource centres can play an instrumental role in facilitating, designing and implementing Open Education Resources (OER), which “encapsulate a potential vision for educational systems globally wherein individual educators, and then increasingly entire departments and institutions, come together in common online, spaces” (Butcher, 2011). OER are digital as well as non-digital educational materials that can be used, copied and distributed free of charge and without permission from the creator (Butcher & Moore, 2015). In addition, LRCs can be used to facilitate resource based learning that supports the individual’s effort to locate, analyse, interpret and otherwise adapt information to meet particular learning needs (Hannafin, 2001) and for the training courses provided to teachers since it has the required assistive technologies and they are required to cooperate and follow up the progress of the students with learning difficulties (Alqudah, 2016).

Instructional design specialists should relate appropriate remedial and/or enrichment activities to the centre’s locally produced resources and media. They are required to conduct research to apply it to both subject matter and the media field and provide current and accurate information to their clients. They should assess the quality of the LRC’s production, make materials accessible, and interact closely with the teachers and faculty members regarding the selection of the contents of the learning portal and the technological opportunities to facilitate teachers and students (Bang, 2003; School District 45, 2010). In addition, the LRC should serve faculty members with its consultancy services which may include: selection of the most appropriate technology-based resources, negotiating courseware licensure issues, and advising on the training of technical trainers to support learners and faculty members (Al-Musawi, 1995).

The LRC structure should secure the meaningful participation of student-centered and/or research-based learning in independent and/or small group activities, providing for a smooth transition from one activity to another by individuals or groups, and providing a smooth and efficient operation through the availability, distribution, collection and organisation of materials and supplies (OECD, 1998). Specialists at the LRC should design and implement a programme of services that adheres to the policies, rules and regulations established by the institutional administration (UAL, 2013). They implement these plans by coordinating the teaching of research and study skills within curriculum areas in cooperation with teachers, providing instruction to students in locating, evaluating and using information, providing for instruction on the instructional devices’ utilisation, and providing instruction that effectively uses learning theories, organises learning experiences and achieves objectives (School District 45, 2010).

The LRC should have a strong planning, staffing and management base: the LRC usually needs to obtain support from the top administrators and decision-makers with the ability to report directly to an advisory board and chief administrative officer of the institution (Schmidt & Rieck, 2000, pp. 33-35; Healthlink Worldwide, 2003). It should be integrated with the parent institution and prioritise objectives in line with its needs. It should adopt national/regional standards of production and managerial policies. It should have guaranteed financial resources and evaluated its cost-effectiveness. Lance (1994) finds that students at schools with better-funded LRCs “tend to achieve higher average reading scores”. All services and resources should be centralised to reach the optimal utilisation and cost-effective processes. In times of crisis, the LRC may need to introduce a cost recovery service to generate self-income and alleviate financial burdens (Schmidt & Rieck, 2000).

LRC specialist’s qualifications should include the ability to use/maintain of computers and the Internet, to deliver training and learning support, to conduct educational research and write reports, and to teach learning and information skills (USAID, 2003; Al Musawi, 2004). The LRC’s specialist should maintain an appropriate student/teacher relationship with professional behaviour, confidentiality, and professional ethics. S/he needs to work with teachers on curriculum design to provide the best available materials (School District 45, 2010). The LRC specialist requires a variety of skills with a detailed job description to display the different roles and responsibilities associated with the LRC (USAID, 2003; Al Musawi, 2004). Staff members should be annually evaluated based on fulfilling these responsibilities and tasks. The International Society for Technology in Education-ISTE developed technology standards and indicators for specialists (teachers and coaches) to inform prospects for the required skills in a digital society. In addition, the TPACK model is “the synthesized form of knowledge for the purpose of integrating ICT/educational technology into classroom teaching and learning. The core constituents of TPACK are content knowledge (CK), pedagogical knowledge (PK), and the technological knowledge (TK)” (Chai, Koh, & Tsai, 2013). Using the TPACK model (Koehler & Mishra, 2009) is important for colleges of education and newly established education technology departments in order to provide the

specialists with comprehensive and integrated professional pre-service preparation. This includes on the acquisition of a deep pedagogical knowledge about the processes and practices or methods of teaching and learning integrated with technological knowledge to serve directly the requirements of effective preparation in a way that enables the specialist to fulfil the required responsibilities and apply certain ways of thinking about working with technology at their work sites. By applying the TPACK model, these colleges/departments can “offer several possibilities for promoting research in teacher education, teacher professional development, and teachers’ use of technology” (Koehler & Mishra, 2009).

LRC specialists need to enhance their skills and expertise in conventional and e-library associated services and operations by arranging in-house and external training programmes (School District 45, 2010; Sunitha, 2009). The successful implementation of new technologies at LRCs depends greatly on the ability of the specialists and professionals to provide leadership and guidance to the students and faculty on how these technologies work. This requires a commitment to provide the appropriate level of development training to the specialists who should maintain their level of competency as new technologies emerge where they need to become efficient navigators to e-Learners. They have to conduct their own extensive research of worldwide information sources in order to provide the high level of service that students and faculty will inevitably demand (Hayes & Barclay-Pereira, 2001; Sunitha, 2009).

The LRC needs to provide efficient, accountable, and diverse technical support; the LRC carries out technological processing such as classification: arrangement of materials, cataloguing, indexing, retrieval, circulation, scheduling and booking, delivery, billing, inspection, checking, inventory, and weeding. The LRC should be responsible for selecting instructional devices and equipment related to the resources’ collection requirements and meeting the client needs (Schmidt & Rieck, 2000).

In sum, the LRC needs (KFU, 2010; Al Musawi, 2004):

- 1) Policies guiding the provision of LRC services.
- 2) A learning resource strategy and its link to strategic priorities for programme development.
- 3) Support teaching and learning in sufficient time for appropriate provisions to be made.
- 4) Orientation and training programmes for new students/other users to prepare them to access facilities and services.
- 5) Sufficient qualified and skilled staff in relevant fields of resources and information technology).
- 6) Financial resources (for acquisitions, cataloguing, equipment, and for services and system development).
- 7) Cutting-edge technologies including assistive, digital and interactive technologies with access to on-line databases and research materials.
- 8) Evaluation procedures and regular review processes including analyses of data on the usage of resources/collections in relation to teaching and learning.

### 1.2.3 The Omani Context

Educational technology in the Sultanate of Oman started with the establishment of the Curriculum Development Department, with a section responsible for educational media, in the Ministry of Education in the mid-1970s. Its objective was to coordinate between curriculum developers and media specialists. The ‘Educational Media’ Section was responsible for equipping public education schools, on the basis of the recommendations of the curriculum developers, with audio-visual and laboratory equipment and materials. It used to produce locally made instructional materials, and record televised and audio programmes for students (Al-Musawi, 1987). In the mid-1980s, the Sultanate went through educational reforms and ended with the introduction of a basic education system. In this system, public education schools were provided with LRCs with the following objectives (MOE, 2010):

- 1) Emphasise the role of the student in the learning process.
- 2) Develop and improve teaching media and methods
- 3) Raise the learning and academic achievement levels
- 4) Provide diverse educational areas of expertise
- 5) Use self-education
- 6) Take into account the individual differences among students
- 7) Provide appropriate educational materials for learning styles

- 8) Provide educational facilities that are not available in places of study
- 9) Provide appropriate opportunities for students to participate in the production and use of educational materials
- 10) Provide appropriate halls to use modern technologies

These objectives were translated into the following LRC tasks (MOE, 2010):

- 1) Oversee, follow-up, and develop the LRC performance and mechanisms
- 2) Manage, assess and provide technical support for the electronic library system
- 3) Design technical specifications for learning and computer resources, supervise their distribution, and determine the centre's contents and user bases
- 4) Evaluate the equipment utilisation process of the centre and its achievement of the prescribed educational goals, monitor challenges, and develop treatment plans
- 5) Design and follow-up of action of technical and administrative management centres, computer labs
- 6) Develop contingency plans for the jobs and projects section.

This study investigates the stakeholders' perceptions of quality and prospective improvements in the learning resources centres at Omani basic education schools.

### 1.3 Study Questions

- 1) Do the stakeholders' perceptions differ in terms of the LRCs' services quality and the performance quality?
- 2) What are the challenges facing the LRCs at Omani basic education schools, as perceived by the stakeholders?
- 3) What are the prospective improvements of the LRCs at Omani basic education schools, as perceived by the stakeholders?

## 2. Method

The descriptive research method was used along with a questionnaire survey as a study instrument.

### 2.1 Participants

The study community includes stakeholders at the MOE related to the LRC work i.e. schools specialists, teachers and administrators, and the Ministry's decision makers who work for the Ministry in the academic year 2014-2015.

### 2.2 Sampling Procedures

Samples of these stakeholders were randomly selected from different educational sectors and Omani educational regions. The final numbers of the surveyed samples are as follows: 110 LRC specialists, 977 teachers, 129 principals, 43 supervisors, 35 administrators. It should be noted that the returned questionnaires had some 'missing values' and this has slightly affected the data analysis process.

Table 1. Participants' distribution based on demographic variables

Gender		Experience			Total	
		< 5 years	5-10 years	> 10 years		
Male	job	specialist	7	17	14	38
		principal	11	4	30	45
		administrator	4	5	16	25
		teacher	65	136	140	341
		supervisor	3	2	8	13
	Total		90	164	208	462
Female	job	specialist	10	29	31	70
		principal	8	16	56	80
		administrator	3	4	2	9
		teacher	123	243	252	618
		supervisor	2	9	17	28
	Total		146	301	358	805

<b>Total</b>	job	specialist	17	46	45	108
		principal	19	20	86	125
		administrator	7	9	18	34
		teacher	188	379	392	959
		supervisor	5	11	25	41
	Total		236	465	566	1267

Table 1 summarises the study sample characteristics showing that the total number of the actual participants is 1267 individuals consisting mostly of females and teachers. The sample individuals are seniors with 5-10 and more than 10 years' experience.

### 2.3 Instrument

The main instrument used in the research was a questionnaire. However, five different 'forms' of questionnaires were used to address the interests of each stakeholder group. They were developed by reviewing lists of issues/criteria of the LRCs resulting from different research resources. The face validity of the questionnaires was conducted by presenting them to a group of referees/experts in both the College of Education at Sultan Qaboos University and the Ministry of Education. The experts made modifications to the original sections and items and added some others. The final format of the five questionnaire forms was designed and validated as follows:

- A. The LRCs Specialist Questionnaire Form (SQF): Includes four sections namely, (1) demographics, (2) services, (3) services quality and (4) performance quality. Demographics include three subsections (job with 5 levels; gender with 2 levels; experience with 3 levels). The services section lists 11 main services with two options (available/not available). The services and performance quality sections were of the opinionative type including 14 and 20 statements consecutively, using a rating scale with 4 options (0= never, 1= rarely, 2= sometimes, and 3= always). In the last two sections, the reliability coefficients were measured using Cronbach's alpha and indicated 0.67 for the service quality section and 0.90 for the performance quality section.
- B. The Teacher Questionnaire Form (TQF): Includes four sections namely, (1) demographics, (2) services, (3) services quality and (4) performance quality. Demographics include four subsections (job with 2 levels; teaching field with 2 levels; gender with 2 levels; experience with 3 levels). The services section lists 11 main services with two options (available/not available). The services and performance quality sections were of the opinionative type including 14 and 18 statements consecutively, using a rating scale with 4 options (0= never, 1= rarely, 2= sometimes, and 3= always). The last two sections reliability coefficients were measured by Cronbach's alpha and indicated 0.87 for the service quality section and 0.95 for the performance quality section.
- C. The Principal Questionnaire Form (PQF): Includes four sections namely, (1) demographics, (2) services, (3) services quality and (4) performance quality. Demographics include three subsections (job with 2 levels; gender with 2 levels; experience with 3 levels). The services section lists 11 main services with two options (available/not available). The services and performance quality sections were of the opinionative type including 14 and 27 statements consecutively, using a rating scale with 4 options (0= never, 1= rarely, 2= sometimes, and 3= always). The last two sections reliability coefficients were measured by Cronbach's alpha and indicated 0.89 for the service quality section and 0.94 for the performance quality section.
- D. The Supervisor Questionnaire Form (VQF): Includes four sections namely, (1) demographics, (2) services, (3) services quality and (4) performance quality. Demographics include two subsections (gender with 2 levels; experience with 3 levels). The services section lists 11 main services with two options (available/not available). The services and performance quality sections were of the opinionative type including 14 and 20 statements consecutively, using a rating scale with 4 options (0= never, 1= rarely, 2= sometimes, and 3= always). The last two sections reliability coefficients were measured by Cronbach's alpha and indicated 0.85 for the service quality section and 0.91 for the performance quality section.
- E. The Administrator Questionnaire Form (AQF): Includes three sections namely, (1) demographics, (2) services, and (3) services quality. Demographics include three subsections (job with 3 levels; gender with 2 levels; experience with 3 levels). The services section lists 11 main services with two options (available/not available). The services quality section was of the opinionative type including 14 statements, using a rating scale with 4 options (0= never, 1= rarely, 2= sometimes, and 3= always) with the reliability coefficient

being measured by Cronbach's alpha and indicating 0.91. No performance-quality section was designed for this category of participants, as they do not directly deal with the daily work of the schools' LRCs and specialists.

### 2.3.1 Research Design

In this research, the independent variables are:

- Gender (male and female).
- Job Area (specialist, principal, administrator, teacher and supervisor).

### 2.3.2 Statistical Analysis

An analytic descriptive approach was used for the questionnaires. Percentages, means, averages and standard deviations were used in the data analysis:

## 3. Results

### 3.1 LRCs' Services

The participants were asked to describe the availability of services by their schools' LRCs on a rating scale with two options: (available) and (not available). These options were analytically given the values of: (1), (0) consecutively. Table 2 shows the percentages of the responses.

Table 2. Percentages of the participants' responses on their schools' LRCs' services

job	Response	Training	Typing	MMD	Video	D. Ph	Present	Signpost	e.learn	m.learn	Internet	Info
specialist	n/available	25.7	7.3	42.3	29.2	42.3	11.0	8.5	65.1	92.5	14.8	1.8
	available	74.3	92.7	57.7	70.8	57.7	89.0	91.5	34.9	7.5	85.2	98.2
principal	n/available	32.8	8.7	41.5	28.7	54.8	11.3	20.8	63.7	87.9	21.1	10.9
	available	67.2	91.3	58.5	71.3	45.2	88.7	79.2	36.3	12.1	78.9	89.1
administrator	n/available	17.1	11.4	48.6	34.3	44.1	17.1	14.3	55.9	77.1	5.7	14.7
	available	82.9	88.6	51.4	65.7	55.9	82.9	85.7	44.1	22.9	94.3	85.3
teacher	n/available	49.4	18.2	37.5	38.3	61.2	22.2	27.8	72.3	90.7	32.8	20.0
	available	50.6	81.8	62.5	61.7	38.8	77.8	72.2	27.7	9.3	67.2	80.0
supervisor	n/available	11.9	14.3	48.7	26.2	59.0	12.2	14.6	59.5	90.5	16.7	4.7
	available	88.1	85.7	51.3	73.8	41.0	87.8	85.4	40.5	9.5	83.3	95.3
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2 shows that the stakeholders perceived the availability of LRC services in the following fields. It can be concluded that the stakeholders perceive traditional services at the LRC such as typing, AV recordings, graphics/presentation designs, and library services as available. However, they (specifically, teachers) perceive new technological services, such as the internet, digital photography, multimedia, e-learning and training associated with them as not available.

### 3.2 LRCs' Service Quality

The participants were asked to describe the quality of services provision by their schools' LRCs on a rating scale including four options: (always); (sometimes), (rarely); and (never). These options were analytically given the values of: (3), (2), (1), and (zero), consecutively. Table 3 shows the means of the responses.

Table 3. Means/Average of the participants' responses on their schools' LRCs' service quality

N	Item	Mean					Average
		specialist	principal	administrator	teacher	supervisor	
	The centre offers materials reservation and borrowing services	2.8	2.58	2.70	2.56	2.79	2.70

The centre follows the policies and regulations set by the Ministry and clarifies them to its clients	2.77	2.37	2.69	2.63	2.66	2.62
The centre provides resources, which make the learning and teaching process easier for students and teachers	2.78	2.35	2.54	2.70	2.63	2.60
The services provided by the centre cover and support the entire curriculum	2.78	2.35	2.54	2.70	2.63	2.60
Lessons are offered to students at the centre by employing traditional and electronic resources and facilitating their access to them	2.70	2.40	2.65	2.54	2.51	2.55
The annual plan of the centre includes programmes that achieve the curriculum's objectives	2.37	2.05	2.25	2.24	2.26	2.24
The centre has sufficient and high quality resources and computers	2.30	2.08	2.28	2.21	2.27	2.23
The centre services are compatible with the users' needs, abilities and learning styles	2.22	2.10	2.22	2.23	2.11	2.18
Lessons that are offered in the centre include activities that increase thinking levels among students	2.09	1.98	2.14	2.05	2.06	2.06
There is a plan for an annual substitution of devices and tools	1.43	1.76	1.68	2.05	2.29	1.84
There is space in the centre for interaction and presentation	1.85	1.73	1.73	1.54	1.87	1.75
The number, qualifications, and experiences of the centre's staff is proportional to the school/curriculum needs	1.58	1.71	1.87	1.38	1.74	1.66
The centre and school are linked by the intranet and Internet networks with suitable speed	1.47	1.60	1.53	1.50	1.74	1.57
The centre is equipped to deal with students with special needs	0.86	0.93	1.07	1	1.51	1.07
<b>Theoretical means</b>	2.11	1.91	2.11	2.01	2.20	

Table 3 shows that the means' averages are between (1.07) and (2.70). After comparing the averages with the theoretical means of each category of participants, the findings show that stakeholders seem to perceive nine services that are 'sometimes' provided with quality, namely:

A. Administrative services:

1. materials reservation and borrowing service
2. clarification of policies and regulations set by the Ministry

- B. Educational services:
3. resources, which make the learning and teaching process easier for students and teachers
  4. support to the entire curriculum
  5. services compatible with the users' needs, abilities and learning styles
  6. activities that increase thinking levels among students
- C. Technological services:
7. traditional/electronic resources and access
  8. programmes that achieve the curriculum's objectives
  9. sufficient and high quality resources and computers

None of these services' quality was rated at 2.7 or above. This indicates that the services provided by LRCs are not 'always' implemented with quality. It could be argued that these and other services have yet to be improved and reach better levels of quality standards.

### 3.3 LRCs Performance Quality

#### 3.3.1 The Specialist Perceptions

The specialists were asked to describe the quality of tasks' performance by their schools' LRCs on a rating scale including four options: (always); (sometimes), (rarely); and (never). These options were analytically given the values of: (3), (2), (1), and (zero), consecutively. Participants' responses were arranged in a descending order according to their means. Table 4 shows the means of the responses.

Table 4. Means of the LRC specialists responses on their own performance quality

N	Item	N	Mean	Std. Deviation
	I make sure to maintain a positive relationship with the student and teacher	110	2.89	.4226
	I immediately report technical malfunctions in the centre	110	2.75	.6558
	I develop professional relationships with co-workers and other industry professionals	108	2.65	.6479
	I index, classify, manage and record the resources and recommend the acquisition of new materials using the MOE software designed for these purposes	110	2.63	.7555
	I assume the responsibility for the implementation and evaluation of tasks and services provided by the centre and prepare its reports	110	2.59	.7578
	I invest in time effectively	108	2.55	.6751
	I help teachers with the design and use of technology in their lessons	108	2.50	.7426
	I contribute to providing and creating a better environment for students to learn individually and collectively	109	2.44	.7507
	I benefit from the views of the students to enhance the LRC's effectiveness	106	2.35	.7309
	I provide training and orientation programmes for users in the school and community about the centre and technology integration	108	2.26	.8578
	I participate in work-related meetings and events that take place outside the school	109	2.20	.9004
	I contribute to the developmental activities and actions related to the performance of teachers	108	2.11	.8574
	I collaborate with teachers to provide students with information skills and link them to the curriculum	109	2.09	.8771

I collaborate with the teachers in the implementation of activities and events, the design of curricular materials and production of software at the centre	110	2.03	.8290
I apply the results of research and studies in solving educational problems facing the centre	109	1.84	.8517
I have enough opportunities for professional and academic development and follow developments in my work field	107	1.76	.9300
I participate in students' evaluation through curricular activities appropriate for their abilities	109	1.75	.8623
I provide training for teachers on the effective employment of learning theories in their lessons	110	1.65	.9442
I set the centre's budget and submit a report about the expenses	109	1.54	1.0761
I read my annual appraisal reports	107	0.76	1.0447
Theoretical mean= 2.17			

Table 4 shows that the means are between (0.76) and (2.89). After comparing these means with the theoretical mean (2.17), it was found that eleven out of twenty tasks were perceived as performed with quality by the specialists; those tasks are mostly of the administrative and technical types. This reveals the need to increase the quality of other tasks particularly of those falling within the educational domains. Considering that the findings reflect the perceptions widely held by the LRC specialists about their own performances, it seems that they need retraining in these domains in a way that gives credibility to their centres in areas related to the academic, instructional, and curricular processes.

### 3.3.2 The Teachers' Perceptions

The teachers were asked to describe the quality of the tasks' performance by their schools' LRCs on a rating scale of four options: (always); (sometimes), (rarely); and (never). These options were analytically given the values of: (3), (2), (1), and (zero), consecutively. Participants' responses were arranged in a descending order according to their means. Table 5 shows the means of the responses.

Table 5. Means of the teachers responses on their schools LRC specialists performance quality

N	Item	N	Mean	Std. Deviation
	The specialist organises materials in an orderly manner for my personal and for my students' use and borrowing.	966	2.51	.7322
	The specialist makes sure to maintain a positive relationship with me and my students	962	2.51	.7623
	The specialist allows to give proposals for the provision of new information resources	961	2.34	.7778
	The specialist deals with my students in an equitable and fair manner	951	2.29	.8717
	The specialist helps me to employ technology when presenting my lessons	958	2.26	.8561
	The specialist take the responsibility for the implementation and evaluation of tasks and services provided by the centre	952	2.18	.8731
	The specialist contributes in providing and creating a better environment for students to learn individually and collectively	966	2.17	.8212

Lessons are offered to my students in the centre by employing conventional and electronic resources and facilitating their access	959	2.15	.8461
The specialist collaborates with me in providing information resources for various activities	952	2.06	.9116
The specialist offers briefings on new developments to me and my colleagues	965	2.02	.9315
The centre's services are compatible with the needs of my students and the level of their abilities and learning styles	956	2	.8592
The specialist participates in the provision and production of information resources for remedial and supportive activities	957	1.99	.9467
The specialist works with teachers to design the best learning resources and materials	960	1.98	.9329
The views of the students are used to enhance the LRC's effectiveness	937	1.96	.9047
The specialist provides training and orientation programmes for users in the school and community about the centre and technology integration	965	1.91	.9333
The specialist collaborates with me in the implementation of activities and events, the design of curricular materials and production of software at the centre	956	1.73	.9749
The specialist considers the participation of all my students in the activities	953	1.73	.9541
The specialist collaborates with me to provide students with information skills and link them to the curriculum	958	1.71	1.0023
Theoretical mean= 2.09			

Table 5 shows that the means are between (1.71) and (2.51). After comparing these means with the theoretical mean (2.09), it was found that only eight out of eighteen tasks were perceived as performed with quality by the teachers; those tasks are mostly of the administrative and technical types. Taking into consideration that teachers are the main targeted audience and daily users of the centres' instructional services, it seems that they are largely dissatisfied with the quality of their schools' LRCs' and specialists' performances. Again, this finding substantiates the above (see C.1.) and reveals the need to increase the quality of tasks falling within the educational domain.

### 3.3.3 The Principals' Perceptions

The principals were asked to describe the quality of the tasks' performance by their schools' LRCs on a rating scale including four options: (always); (sometimes), (rarely); and (never). These options were analytically given the values of: (3), (2), (1), and (zero), consecutively. Participants' responses were arranged in a descending order according to their means. Table 6 shows the means of the responses.

Table 6. Means of the principals responses on their schools' LRC specialists' performance quality

N	Item	N	Mean	Std. Deviation
	The specialist contributes in providing and creating a better environment for students to learn individually and collectively	125	2.76	.4984
	The specialist deals with students in an equitable and fair manner	126	2.71	.5493

The specialist immediately reports technical malfunctions in the centre	127	2.69	.5843
The specialist makes sure to maintain a positive relationship with the student and teacher	127	2.65	.6471
The specialist organises materials in an orderly manner for clients' use and borrowing	127	2.61	.6552
The specialist indexes, classifies, manages and records the resources and recommends the acquisition of new materials using the MOE software designed for these purposes	126	2.59	.7186
The specialist assumes the responsibility for the implementation and evaluation of tasks and services provided by the centre and prepares its reports	127	2.57	.6373
The school administration follows up the work of a centre's specialist through regular visits and user satisfaction measures	118	2.55	.6743
The school administration provides financial and scientific support for the specialist	122	2.53	.6323
The specialist works in accordance with the prescribed job specification	126	2.52	.7237
The services provided by the specialist include and support all school curricula	121	2.50	.6598
The specialist invests in time effectively	127	2.43	.6845
The school administration assesses the specialist work on a regular basis	122	2.40	.7119
The specialist allows teachers to give proposals for the provision of new information resources during the annual inventory	126	2.35	.7830
The specialist helps teachers with the design and use of technology in their lessons	125	2.33	.8498
The number of the centre's staff , their qualifications and experience are proportional with the school/curriculum needs	128	2.33	.48891
The specialist reviews the LRC's plans on a regular basis according to the users' needs	126	2.31	.7845
The specialist benefits from the views of the students thus enhancing the LRC's effectiveness	126	2.17	.7457
The specialist contributes to providing and creating a better environment for students to learn individually and collectively	127	2.16	.8206
The specialist collaborates with teachers in the implementation of activities and events, the design of curricular materials and production of software at the centre	126	2.12	.9601
The specialist centre handles the job with the profession's codes of ethics	123	2.11	.8079
The specialist reads his/her annual appraisal reports	119	2.10	.7635
The specialist provides training and orientation programmes for users in the school and community about the centre and technology integration	127	2.09	.8639

The specialist identifies procedures that facilitate the management of the centre in periods of his/her absence	124	2.07	.8942
The specialist collaborates with teachers to provide students with information skills and links them to the curriculum	125	2	.8566
The school management encourages the specialist by providing him/her with financial and moral incentives	119	1.92	1.0982
The specialist has enough opportunities for professional and academic development and follow developments in his/her work field	120	1.10	1.2050
Theoretical mean= 2.33			

Table 6 shows that the means are between (1.10) and (2.76). After comparing these means with the theoretical mean (2.33), it was found that sixteen out of twenty-seven tasks were perceived as performed with quality by the principals. It seems that principals satisfactorily perceived mostly the administrative and technical aspects of their schools' LRCs performances. The findings show that they are dissatisfied with performances in areas related to dispositions, support, and management provided by their LRC specialists. Again, this finding shows the need to increase the quality of the LRCs' performances. An interesting finding shows that the principals rate the 'financial/moral encouragement' and 'professional development' given to the LRCs' specialists as the lowest in terms of their perceptions of the performances' quality. This shows the urgent need for the specialists to be encouraged and retrained by means of continuous professional development.

### 3.3.4 The Supervisors' Perceptions

The supervisors were asked to describe the quality of task performance by their schools' LRCs on a rating scale including four options: (always); (sometimes), (rarely); and (never). These options were analytically given the values of: (3), (2), (1), and (zero), consecutively. Participants' responses were arranged in a descending order according to their means. Table 7 shows the means of the responses.

Table 7. Means of the supervisors' responses on their LRC supervisee specialists performance quality

N	Item	N	Mean	Std. Deviation
	The specialist indexes, classifies, manages and records the resources and recommends the acquisition of new materials using the MOE software designed for these purposes	42	2.86	.3542
	The specialist immediately reports technical malfunctions in the centre	42	2.71	.5078
	The specialist centre handles the job in line with the profession's codes of ethics.	42	2.61	.6044
	The specialist forms and monitors an information skills students' group	42	2.57	.8595
	The specialist recognises the importance of the LRC and his/her role in the school	42	2.52	.7404
	The specialist develops professional relationships with co-workers and profession colleagues	42	2.52	.7404
	The specialist helps teachers with the design and use of technology in their lessons	42	2.41	.7982
	The specialist provides training and orientation programmes for users in the school and community about the centre and technology integration	42	2.33	.7861
	The specialist works in accordance with the prescribed job specification	41	2.16	1.0055

The specialist contributes in providing and creating a better environment for students to learn individually and collectively	42	2.14	.7181
The specialist participates in work-related meetings and events that take place outside the school	42	2.12	.9160
The specialist reviews the LRC's plans on a regular basis according to the users' needs	42	2.10	.8500
Curricular activities carried out in the centre suit different abilities	41	1.98	.7579
The specialist collaborates with teachers in the implementation of activities and events, the design of curricular materials and production of software at the centre	42	1.88	.9160
The specialist contributes to the developmental activities and actions related to the performance of teachers	42	1.86	.9518
The specialist has enough opportunities for professional and academic development and follows developments in his/her work field	42	1.86	.9518
The specialist collaborates with teachers to provide students with information skills and link them to the curriculum	42	1.83	.7938
The specialist provides training for teachers on the effective employment of learning theories in their lessons	41	1.68	.9066
The specialist applies the results of research and studies in solving educational problems facing the centre	42	1.64	.8503
The specialist reads his/her annual appraisal reports	40	1.13	1.1589
Theoretical mean= 2.16			

Table 7 shows that the means are between (1.13) and (2.86). After comparing these means with the theoretical mean (2.16), it was found that the Ministry supervisors perceive nine out of twenty tasks to be of satisfying quality in terms of the LRCs performance; most of them represent administrative and technical tasks. By virtue of their job, supervisors communicate on a regular basis with the LRCs and evaluate the specialists' performances. Therefore, these findings reveal their dissatisfaction with the quality of their subordinates' performances. This indicates the need to plan for effective retraining on a continuous basis. It also seems that the supervisors reiterate the specialists' views that they do not read their annual appraisal reports (see C.1. above), rated as the lowest mean by both groups of participants. This is perhaps an official policy, which requires a careful review in order to enable the staff members at the LRCs to work on their strengths/weaknesses.

#### 4. Discussion

This study investigates the stakeholders' perceptions of quality and prospective improvements in the learning resources centres at Omani basic education schools. The findings have revealed their perceptions of the traditional services availability with a lack of new technologies' services. In general, the study found that only nine administrative, educational and technological services are 'sometimes' provided with quality. This indicates that these and other services have yet to be improved and reach better standards of quality since this is not 'always' the case.

These findings show a shortage in achieving the institutional objectives (MOE, 2010), facilitating the educational environment, and effective implementations (Al Musawi, 2004; Bang, 2003). To achieve this goal, LRCs need to have a robust technological infrastructure with integration of their learning resources into academic programmes and curricula (Healthlink Worldwide, 2003). New strategies to utilise and integrate e-Learning platforms should be developed. New formats of e-libraries/e-books need to be followed. Mobile and ubiquitous learning is another application that LRCs need to consider in their service provision. However, funding, library staffing, and student computer capabilities should be evaluated to decide the extent to which the

institution will use technology-driven services (Hayes & Barclay-Pereira, 2001).

Findings have also revealed the quality of some administrative and technical LRCs' tasks and the need to increase the quality of other tasks, particularly of those falling within the educational domains. With respect to the LRCs' specialists about their own performances, findings show that they need retraining in these domains.

Teachers perceived only eight administrative and technical tasks as performed with quality by their centres and specialists, which indicates that they are largely dissatisfied with the quality of the LRCs' performances. In substantiation of these perceptions, principals are dissatisfied with performances in areas related to dispositions, support, and management provided by their LRCs' specialists.

These perceptions were even more substantiated with the Ministry supervisors who perceive nine administrative and technical tasks to be performed with quality by the LRCs (Al Musawi, 2010). This is substantiated by the experiential evidence which shows that Omani LRCs are challenged with the lack of necessary competencies and characterised by poor performance and low morale among their staff. All this evidence indicated a persistent need for an effective LRC specialist preparation and service training.

In sum, it seems that the focus of the stakeholders' perceptions was on training (School District 45, 2010; Sunitha, 2009). The authors argue that the LRC is designed for *learning*, serves the *educational* environment and deals with teachers, lecturers and students. Since information and communication technologies have become an essential component of the LRC structure, the specialist's pre-service preparation should incorporate methods to deal with these new technologies. Therefore, everything planned, provided, designed, produced, learned or trained by the LRC needs professional educators in the areas of instructional design which implied that specialists should acquire such competencies during their pre-service preparations.

#### 4.1 (Re)Training Model for the Omani schools

For training and retraining, the authors recommend that LRC specialists' pre-service preparation competencies for the new information age require the following model, as stated by the TPACK model (Koehler & Mishra, 2009), restructuring of departments of education technology (Al Musawi, 2010) and ISTE standards (2016).

First, in terms of the 'teaching/learning assessment', LRC specialists should take an educational 'dose', especially in the areas of teaching and training, dealing with the school environment, and curriculum design of the educational courses. Second, in terms of 'visionary leadership', the LRC specialist is described - as indicated by the literature - as an evaluator, advisor, education developer, and technology expert/leader, trainer, and researcher. These descriptions should be implemented in his/her preparation. Third, in terms of 'digital age learning environments and digital citizenship', there is an urgent need to prepare the LRC specialist in the technological aspects of the centre that deal with the educational computer software, hardware and networks, in addition to the traditional classification and cataloguing of books. This also applies to large learning resources and technology centres in big educational and academic institutions, which have different settings of independent libraries and information centres that require the preparation of highly qualified specialists at all levels. Fourth, in terms of 'professional development and programme evaluation', since the LRC specialists' role is of technological, educational and administrative dimensions, then their undergraduate preparation should reflect this role with its dimensions and be prepared in colleges of education. This will further pave the way for them to continue their postgraduate studies in 'educational' institutions. In addition, the specialist has to carry out training programmes and disseminate technology use, and help teachers to implement and lead the change process to create a knowledge-based society. Communication and training skills can be better learnt, practiced and acquired in courses introduced by colleges of education.

## 5. Conclusion

The authors see that the preparation of the Omani learning resource centre specialist should be limited to colleges of education and educational technologies departments. It should ensure their mastery of the three LRC domains: IT, educational technology, and libraries, in addition to a set of skills in educational design and planning, training, publishing and teaching in the areas of technology in which they need to help students and teachers.

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