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Mapping the state of information literacy education in primary schools:
The case of Pakistan

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1. Background

This paper presents a situational analysis of the state of information literacy (IL) in primary schools in Lahore, Pakistan. Human actors, key factors affecting IL were identified, and their relationship with each other in a socio-political context was explored.

IL has been described as fundamental in enabling citizens to participate in contemporary society (Information Literacy Meeting of Experts, 2003) and specifically as an important skill to develop during years at school (McKeever, Bates & Reilly, 2017). Through their longitudinal study, Chen, Huang & Chen (2017) determined that integrating IL into the primary school curriculum aided development of subject knowledge. Effective engagement with information may also benefit children's lives more generally. For example, Lu's research (2010; 2011) revealed that information seeking was valuable for older elementary school children in helping them cope with problems in their everyday lives.

The process of education in IL is not just the province of school librarians. Researchers have also identified the importance of collaborating with teachers (Mokhtar & Majid 2006; Montiel-Overall, 2008), of integrating IL into the school curriculum (Baji, Bigdeli, Parsa & Haeusler, 2018; Oberg, 2009) and what Streatfield, Shaper, Markless & Rae-Scott (2011) refer to as "strategic orchestration" of IL within the whole school. Outside school, children's homes and families are influential on their development. All these relationships and processes take place within a specific regional and national context, with the education system determining the education of librarians and teachers, as well as that of school children.

In Pakistan, the concept of IL is gradually gaining attention. Ameen and Ullah (2016) reviewed IL published literature between 2009-2015 and found few MPhil/PhD theses and only 13 research papers highlighting its importance in the country. Bhatti (2010) asserted that IL practice in Pakistan is limited to conducting user education workshops and library orientations. Most research based studies on IL have focused on undergraduate and graduate educational levels and assessment of students and faculty IL skills (Bhatti, 2010; Kousar, 2011). There is a dearth of literature on the state of IL in Pakistani schools (Batool & Khalid, 2012; Batool & Webber, 2017) and this research addresses this gap.

2. Problem Statement

Information literacy (IL) is valuable for children's school work and for their development as citizens. Formal education has been treated as the natural focus for developing IL, and is reflected in the bias of literature towards IL in formal education settings (for example, as reflected in Reynolds, Willenborg, McClellan, Linares & Sterner, 2017).

In Pakistan, most children only attend primary level education and do not go beyond: the Primary School Net Enrolment Rate is 71%, which is higher than other educational levels such as 18 % at middle education level and 11% at Higher or Higher Secondary Level (Government of Pakistan, 2017). Thus it makes sense to focus attention on IL at this basic level. There is little research about IL in Pakistan in general, and even less about IL in Pakistani primary schools (Batool & Mahmood, 2012; Batool & Webber, 2014). An overview of international (mostly western) studies reveals that there is also less literature about IL with specific reference to primary education than about later stages of education.

The educational system in Pakistan is very different to that of the UK and the USA, so it cannot be assumed that results are transferable. Increasingly, literature on younger children focuses on their engagement with technology (e.g. Han, 2018), whereas in Pakistan many schools will not be equipped with computers and children may have very restricted access at home. Additionally, Khan (2013) identified that the majority of public sector primary schools in Lahore, Pakistan (the site of the research) do not have functional libraries and even fewer have librarians. Thus, research which only involves librarians will achieve only a partial view of the situation.

Therefore, there is a need to explore IL in primary schools in Pakistan, placing it in the Pakistani context in order to take into account the specific cultural, social, economic and political situation of the country. The research approach of situational analysis (Clarke, 2005), drawing on case study data and analysis, was undertaken to explore the state of IL education in primary schools in Lahore, Pakistan, through investigating classroom practices, teachers' teaching methods, school children's information behaviour, and the role of the library and librarian (Shahid, 2016; Batool & Webber, 2017).

3. Literature Review

One of the important developmental indicators of Pakistan is education. Statistics reveal that participation at the primary level is greater than at higher levels of education (Government of Pakistan, 2017). The education budget allocated by the government has not increased in line with the country's population increases (Memon, 2007). With the same capacity of educational institutions, it was not possible to provide education to all. This crisis compelled the Pakistani government to invite private organizations to share the government's burden. This initiative, lacking quality control procedures, has led to poor quality of education, with untrained teachers/staff and poor infrastructure. This situation also caused a proliferation of schools which are not officially registered. Presently, at the primary education level there are multiple education providers. Private and non-governmental organisation (NGO) schools are serving more students in urban areas than Government-funded schools at this level. This ratio is also increasing in rural areas, as according to statistics, 63% students are served by public institutions and the remaining 37% are admitted to private sector institutions (Government of Pakistan, 2017).

Western literature has highlighted the role of schools and libraries to promote IL practice and to develop children's IL skills (Ranaweera, 2008; Smalley, 2004; Todd & Kuhlthau, 2004). A number of IL models (e.g. BIG3, BIG6, PLUS, Super 3) have been developed by organizations or individuals for school settings. Adoption of these models has been linked to improved academic performance of children. Strong school library media programmes play a critical role in the development of individual learners and critical thinkers. For example, Baji et al. (2018), Chen et al. (2017) and Chu, Tse, & Chow (2011) provided evidence from three non-Western countries that "inquiry-based learning" is valuable at the elementary school level.

In contrast to Western countries, although the IL situation in Pakistan is gaining researchers' attention, implementation strategies and proposed contextual framework/models are almost absent (Batool & Webber, 2018). Presently, library associations and library and information schools promote theoretical IL rather than practical steps to improve IL. As discussed above, the IL practice is limited to user education and library orientations in most of the academic institutions. Embedded IL curriculum practice is rare, however, some institutions are offering IL instruction as zero credit courses.

Numerous stakeholders have been identified as important to the development of information literacy in school, ranging from individual teachers and librarians collaborating on IL education through those involved in managing the school to those at regional and national levels responsible for setting school curricula and financing school development.

Baji et al. (2018) identify that the curriculum, teachers and librarians all have to be considered when designing IL in schools, and if one of these is left out, the initiative is likely to fail. Montiel-Overall (2008) describes a framework for successful collaboration that sets teacher and librarian within the overall culture and management of the school. Further, Robin (2011), in her comparison of IL in schools in England and France, proposed conditions for developing IL in schools. Conditions consisted of: compulsory school libraries, supportive senior management, a whole-school focus for initiatives, informed and critical librarians (building on appropriate education on IL and pedagogy at library school), a clear definition of IL for schools, and explicit guidance from the government on IL education in the school curriculum. The government's role in financing and monitoring school libraries was also identified by Saitis & Saiti (2004) in their study of the Greek primary sector.

Whilst teachers may acknowledge the importance of IL for their students, they may also have difficulty finding room for it in the curriculum or connecting it with subject content (Williams & Wavell, 2007). UNESCO's publication of a Media and Information Literacy curriculum aimed at teachers (Wilson, Grizzle, Tuazon, Akyempong & Cheung, 2011) and its subsequent initiatives (e.g. UNESCO, 2018) recognise the need to tackle the education of teachers as well as librarians, a point also made by Saitis & Saiti (2004). Despite this recognition that development requires change at more than the individual level, there have been few studies attempting a holistic analysis of the environment in which IL education takes place.

4. Research design

4.1 Case study approach

The case study approach is well suited to studying a real-world problem in a bounded context (Thomas, 2011). Using Thomas' typology (2011), the subject of the case study was primary schools in Lahore, Pakistan, and the object of the study (providing the frame for analysis) was the practice of IL within those schools. These schools were chosen because the first author is a Lahore resident, but the selection is also meaningful since Lahore is the second most populous city in Pakistan (Pakistan Bureau of Statistics, 2018). The case studies were exploratory in nature, since this is an area with no previous research.

As is characteristic of the case study approach, multiple sources of evidence were used. This began with identification and analysis of statistical, policy and research documents relating to the Pakistani education system and the incidence of libraries and librarians in Pakistani primary schools. The extent to which IL could be identified in core subjects of the Pakistani national curriculum (Punjab Curriculum & Textbook, 2014) was investigated by using Herring's (1996) PLUS model (P=Purpose, L=Location, U=Use and S=Self-evaluation) to categorise statements relevant to IL. This analysis revealed, for example, that none of the core subject curricula examined (English language, General knowledge and Mathematics) addressed the "S" aspect of Herring's model. Altogether, this analysis provided information on the macro (national) context which was particularly valuable for situational analysis.

Following a pilot study, six case studies were carried out sequentially, as detailed below. Analysis began when data had been collected for the first case, and continued iteratively to provide final analyses of the individual cases and cross case analysis. The situational analysis drew on the existing data and previous analysis. Finally, a model of IL for the Pakistani primary

school context (described in Batool & Webber, 2018) and a proposed plan for implementing IL in Pakistan were developed.

4.2 Research site and participants

The case study schools were chosen as examples (although not necessarily representative) of different types of schools in Lahore. Local contacts were used to identify willing participant schools. Three publicly funded schools (located in low, upper middle economic areas of the city) and three private schools (one run by a non-governmental organisation, one un-registered and one an elite school) were selected as cases. In Pakistan, there are different types of private schools run by varied authorities, therefore, multiple school cases were included to have a varied view of the state of IL education. Three of these schools had libraries, two with librarians. Within each school, the primary contact, usually the Head Teacher, was influential in identifying teachers to interview and the pupils to participate in focus groups. These focus groups involved task based activities to investigate the IL skills of the children. Additionally, librarians (where present) were interviewed. Further data were collected through observation, to gather the additional evidence about the learning environment of the school sites. In addition, curriculum documents and classroom activity sheets were collected to investigate the provision of IL in the existing education system.

Ethics approval was obtained for this research, following the ethics review procedures set and monitored by the British university at which the first author was undertaking her doctoral studies. Procedures for obtaining informed consent were sensitive to the Pakistani cultural context, for example, using the local language for written documents and providing oral explanations.

4.3 Data collection and case study analysis

The data collection instruments were piloted in an elite private school (as described in Batool & Webber, 2014) and since they required only very minor amendment, this school was included as one of the six case studies. Observational notes and photographs were taken (where permitted) and documents about the school and curriculum gathered from teachers. Altogether, 12 focus groups (each consisting of 3-9 children, aged 5-7 years), 10 teacher interviews and two librarian interviews were carried out. Children aged 5-7 years were the focus of the study. Firstly, in the Pakistani education system, children usually start their schooling at this age and previous studies identified the need of IL practice from the foundational or early stages (McKenzie, 2005; Walter, 2010). Secondly, at this age level children are curious to learn and are starting to develop their inner world (Cook and Cook, 2005).

More traditional focus group formats are not effective with young children, and so an alternative format was used (Spratling, Coke & Minick, 2012). Data was gathered from the children primarily through a series of IL activities, based on work by Irving (2010) and Ryan & Capra (2001). These activities, described in Batool & Webber (2018), focused on exploring the children's abilities to use, understand, present and find information, using worksheets, drawing and verbal information. The interviews and focus groups were carried out in English or Urdu, transcribed, and Urdu was translated into English.

Data was loaded into NVivo text analysis software, and Braun and Clark's (2006) six-stage approach was used to analyse data within and across the case studies, with analysis grounded in the data, rather than using the lens of pre-existing theory. The main themes which emerged were: teachers' teaching methods, learning attitude and training sources; school library; information behaviour; children's behaviour; problems. As well as summarising key characteristics of each case, comparative analysis of cases using these themes was conducted.

4.4 Situational analysis

Situational analysis was used to illuminate further IL practice in primary schools, building on the case study analysis and drawing on the broader analysis of the educational and IL situation in Pakistan. Developed by Clarke (2005), originally in the biomedical field, "Situational analysis seeks to identify differences, variations, conditionality, and complexity. It can be used in a wide range of research projects using different data gathering approaches" (Sen & Spring, 2013, p.644). Its use was compatible with the social constructivist research philosophy underpinning this study as a whole. Vasconcelos, Sen, Rosa & Ellis (2012) outline the relationship between situational analysis and grounded theory, and Clarke's elaboration of the social worlds/arenas framework. Clarke (2003) situated her work as postmodern, with a shift away from research aiming to generalise and simplify, and towards exploration of "localities, partialities, positionalities, complications, tenuousness, instabilities, irregularities, contradictions, heterogeneities, situatedness, and fragmentation - complexities" (Clarke, 2003, p. 55).

In the information field, situational analysis is a relatively novel approach, but has been used, for example, to situate UK public libraries in their social context (Grace & Sen, 2013; Sen, 2014), to map the information world of parents (Walker, 2012) and to identify the relationship between information and those coping with long-term illness (Sen & Spring, 2013). It has also been used in educational research; den Outer, Handley & Price (2013) describe stages of situational analysis, using their own study of newcomers to an academic community, and critique the approach using the lens of reflexive practice.

The analysis process uses three mapping techniques, all of which address the questions "Who and what are in the situation? Who and what matters in the situation? What elements make a difference in the situation?" (Clarke, 2005, p.86). The mapping process enables the researcher to portray different perspectives on the situation. Particularly distinctive is the focus on "sites of silence" and the explicit inclusion of non-human elements when undertaking the mapping process. Non-human elements may be critical in structuring interactions within the given situation (Clarke, 2003). To identify "sites of silence" the researcher reflects on human and non-human factors which might have been expected to be present in the data, but which are not.

Clarke (2005) identifies three mapping techniques: (1) *situational maps* which identify major elements in the situation in their messy complexity, categorise them, and map the relationship between them; (2) *social worlds/arenas maps* which map the commitments, relationships and sites of action of each social world, and the relationship between the worlds; and (3) *positional maps* which aim to represent major positions of topics and issues which are central to the situation being studied, using a matrix. Since the present study did not aim to position major elements of the given situation, this third mapping technique was not used to position the identified elements. Clarke (2005) makes the point that a researcher does not have to use all the mapping techniques, but can explore based on the nature of their data. Sen & Spring (2013) have noted that positional mapping is less frequently used than the other two mapping techniques.

The first type of mapping technique (situational maps) leads to identification of major human, non-human, discursive, historical, symbolic, cultural and political elements of the situation (Clarke, 2005). These maps show a messy view of the major elements of the situation and their relationships. The second type of mapping (social worlds/arenas maps) presents a higher-level explanation of the situation, bringing together different groups (human and nonhuman) to present a broader and connected picture. The basic idea behind this mapping technique is to

consider how people act, interact and organize themselves. Strauss (cited by Clarke, 2005) defined social worlds as "universe of discourse". For example, the arena of a hospital includes the physicians' world, nursing world, hospital management world, other hospital staff's world etc. In these worlds of the hospital arena, there are sub worlds/arenas which exhibit different discourses (Clarke, 2005, p.115). Analysis involves identifying shared ideologies, primary activities, discourses, actors and particular sites within social worlds, and stimulating reflection about which social worlds, or sub-worlds are emerging and why this is the case (Clarke, 2005). The purpose is not to map all social worlds, however, but only to represent the key social worlds of an arena emerging from the data and from the researcher's own observation.

In the current study, the codes and themes from case study analysis and the finding from the analysis of the macro situation (the education system in Pakistan, including the analysis of the national curriculum) were used to create messy situational maps, with key elements placed randomly. This initial mapping exercise was done by keeping key questions in mind: Who and what are in the situation? Who and what matters? What is going on in the situation? What ideas, concepts and sites matter? These important elements were then positioned and re-positioned through an iterative approach to make relationships explicit.

The important elements which can build relationships were circled and lines drawn show their relationships with each other. These elements (connected in each case to a number of other elements) were: public schools; lack of higher level planning; traditional school librarians; uneducated parents; missing school library place, and; text book teaching. For example "text book teaching" linked to: lack of activity based teaching; teaching strategy aimed at memorisation; lack of inquiry based learning; public schools, and; and (via "no collaboration between teachers and librarians") to traditional school librarians. Some elements were left isolated, notably elite class schools, with their innovative learning environment and subject teachers. This analysis provided the opportunity for more holistic analysis, identifying key stakeholders and the main connections between categories. Table 1 presents one iteration of this process, focusing on stakeholders.

Insert Table 1 here

The third exercise resulted in an ordered situational map. Clarke (2005) suggests headings to develop an analytical table for understanding the situation. All the categories identified in initial mapping and those observed by the researcher were well fitted to these headings and therefore no new headings were generated, but some of Clarke's (2005) headings were omitted as no elements were identified for them. The ordered situational mapping identified key human, non-human, collective human actors, non-human-actants, political economic elements, socio-cultural elements, silent actors, temporal elements and major issues of the given situation.

To further explore the findings of this study, a social arenas map was produced. The ordered mapping exercise identified major factors such as human, non-human, key events, political which in turn resulted in the identification of specific arenas directly linked with IL education in Pakistan. For example, non-human factors (learning environment in schools, homes, tuition centres (private teaching centres), and mosques) led to the emergence of the learning arena. This made the direct connection that children's learning places have a crucial impact on children's IL education. Social arenas provide a framework that shows social and organizational relationships within the situation (Vasconcelos, Sen, Rosa & Ellis, 2012). This mapping enabled the researcher to see the present situation in a wider context and simultaneously the sub arenas show important factors influencing the whole arena.

5. Findings

The analytical mapping exercises provided the opportunity to see the overall situation through multiple lenses and identified key factors influencing IL situation in primary schools in Pakistan.

Table 2 illustrates key human individual and collective elements like policy makers, children, school owners, teachers, family members and librarians. The non-human elements or actants identified include: political planning; un-realistic education policies (curriculum); awareness of information literacy; schools' learning environment, and; library and homes. In the category of discursive constructions of individual and/or collective human actors, the identified elements were: teachers' role and attitude; librarians' role and attitude; children's information behaviour; attitude and skills; older family members' role, and; attitude and role of tuition teacher. The political/economic elements in the present situation were political instability in the country and economic issues directly influencing the state of IL education in primary schools.

The ordered mapping also enabled the researchers to discover silent actors in the study. These were: the role of fathers; public libraries; library schools, and; professional library organizations. During focus groups, children did not mention their fathers helping them in their studies, whereas other family members (such as siblings and mothers) were mentioned.

Insert Table 2 here

Similarly, it was observed that none of the participants mentioned the role of public libraries. The participants' conceptions of both the librarian's and the library's role was limited. The factor "traditional role of school librarians" indicates the limited role of library schools or professional organizations in the participants' continuing education. As noted previously, only two of the six schools had librarians. While talking about school children's visits to the library, the librarian from Case Study 3 mentioned:

> *"Yes I don't allow them to bring pen and pencils, we don't allow them to tear books, and the teacher who comes with children looks after them completely."*

One child mentioned:

> *"if teacher says then we take books, otherwise we sit quiet."* (Case3)

The children's conceptions of a library varied. The library was described as a place to rest, a place to play, a book rack, or a small collection of books anywhere. Some children had never visited a library and had no idea about it. During interviews and focus groups, some teachers and children talked about there being a library room, however, the first author's visits to the rooms revealed the presence of one or two racks of books at most. For example, Figure 1 portrays the small number of books available in a room that was normally locked. This shows a direct connection between children's perception of library as place and their learning environment.

Insert Figure 1 here

In response to a question about the use of other information sources within the library such as encyclopaedias or atlases, the Case 6 librarian said:

> *"No, no for that I am not concerned……what they are doing at home….English teacher do the written work and all that…"*

The quotations above indicate that the Case 3 librarian was preoccupied with potential damage of library materials and the Case 6 librarian perceived that she had no role as regards to the use of library resources. It was found that both librarians (one in a publicly funded school and one in a private school) spent more time teaching other subjects (English language) than doing library administration and IL practice. During library hours in the elite class school, children learned the English language, and in the public school, they only visited the library or used it as a place to sit quietly. The librarian further elaborated:

> "*children bring their specified books in library and then we read, I read one or two pages and then they read one by one*". (Case 6)

Table 2 shows that there were many non-human actants in the given situation, including: learning environment; meaningless library hours (i.e. hours in which the students were not engaged in any meaningful activity); forced learning in schools and homes, and; learning gaps in the curriculum. Public and private school teachers admitted during interviews that in practice the primary school curriculum is not flexible and has learning gaps, therefore it was difficult for them to practice IL due to curriculum pressures.

Whilst analysis of the national curriculum had revealed that some elements of IL were required as part of core subjects, this had not translated into teachers' practice.

Teachers' responses conveyed a limited use of information sources:

> "*Mostly I use books, if I couldn't understand anything then I use dictionary.*" (Case 5)

> "*No they are very young, only books are enough for them.*" (Case 6)

The results showed that the learning environment of the places where participants spent their time impacts on their learning styles and motivational levels (for example, a dull, dark, traditional environment in public/NGO/un-registered private schools, compared with an innovative, colourful environment in the elite class private school). The elite class private school teachers were motivated and involved children in related IL practices for example brainstorming, creative writing practice, organizing information activities and sharing work. The public, private NGO and private unregistered schools' teachers were not motivated to adopt innovative and activity-based teaching methods. They perceived that text book reading and their personal knowledge was enough to teach primary school children. To evidence this, one teacher said:

> "*Just see I have done masters and I am teaching primary children, so the knowledge I have is enough as I am not teaching masters or PhD class.*" (Case 1)

They also were not motivated to improve their practice:.
> "*I learnt as part of training but then didn't take much interest.*" (Case 1)

The findings indicated a forced learning attitude by primary school teachers. For example, one Case 5 teacher said:

> "*…definitely I have to [be] harsh with them*" (Case 5 CIT)

> "*I expect from them to answer my question.*" (Case 5)

She noted that she starts her class by saying:

> "*open books and then I write on whiteboard*"

Another example is from Case 4:

> *"Children have their own interests but I only tell them that you have to do this work"*...

The ordered mapping identified sociocultural elements in the given situation, including: mothers as helpful in studies, disciplinary culture in schools and homes, and participant children with restricted access to information sources. In the children's homes, parents or older brother/sisters did not allow children to use computers (including the internet) independently. Their teachers also thought that the children were too young to use internet and related activities. The statements below evidence this:

> *"No we are not allowed, if we play games, we had punishment."* (Case 6),

> *"We have computer but my elder sister uses it."* (Case 3)

The social arenas (Figure 2) emerged through the process of mapping, drawing on connections present in the data and analysis of the macro (national) environment. As previously explained, Clarke (2005) notes that the arenas are social worlds with their own actors and discourses. The arenas enable identification of areas of relationship and conflict. For example, both teachers and librarians are within the "professional attitude" arena, but separated through the differing educational pathways for the two professions (evident in a macro analysis) and the differing roles and activities observed and reported on in the case studies. The social arenas map is valuable when considering how change might be brought about in policy and practice, as is discussed in the following section.

Insert Figure 2 here

The information literacy situation shown in Figure 2 is directly and indirectly connected with learning, professional attitude, socio-cultural, home and political arenas. This mapping focused on the most influential factors of a social world. These arenas have dotted porous boundaries to indicate that they overlap. The learning arena consists of sub arenas: schools, tuition centres and religious learning institutions. These are the learning worlds of the participant children, as indicated by the case study findings. Apart from those in case study 6 (the elite private school) participant children reported fixed schedules after school, with most of them attending after-school tuition programs, doing homework and reading from the Quran (at home, at a relative's house or in the mosque).

The issues related to higher level planning for IL emerged as a political arena. This arena specified nonhuman actants influencing the implementation and practice of IL (for example, the economic divide, different types of private schools, quality issues and missing facilities in schools).

Another important arena/social world is the professional attitude arena. This arena depicts the professional attitude of school teachers and librarians. The professional attitude of the main actors (school teachers and librarians) is a notable hindrance to the practice of information literacy. The teachers were not motivated to undertake professional development or to devote much time to developing classroom activities. For example, a teacher from Case 1 said that whilst she did have some activities,

> *"But not in routine as we have to go home and look after our own children. We do not have time."*

The home arena is also significant. Findings showed that elder brothers and sisters were mentioned by children as the main actants in their studies. This was also noted by one of the teachers in Case 3:

"we ask questions from them…sometimes their brothers and sisters help them."

The parents and other relatives were also helpful, however children had restricted access to information sources (such as the internet, dictionaries or newspapers).

The socio-cultural arena significantly indicates issues in the Pakistani context. These socio-cultural issues (disciplinary culture, children underestimated by teachers and parents, gender discrimination), which are prevalent in schools and homes, had a serious impact on the state of IL in primary schools. The way in which children's capabilities were underestimated can be illustrated by a teacher in Case 6, who said that children did not need to use the Internet :

"No they are very young, only books are enough for them,"

whereas the children themselves reported using the Internet at home. A teacher in Case 4 provided an example of forcing children to be compliant:

"children have their own interests but I only tell them that you have to do this work."

In the mapping (Figure 2), the red dotted boundary line of socio-cultural arena overlaps with learning and home arenas, as the cultural values of Pakistani society impact on children's learning practices and their home environment.

Whilst some parts of the arenas map might be the same for a situational analysis emerging from research into primary school children's learning of some other subject (since the learning takes place in the same political and social environment), there are clearly elements distinctive to IL (such as the presence of librarians and the library) and other elements (such as the importance of information sources, or the absence of fathers' voices in the IL study) which could emerge differently when looking at other parts of the curriculum.

6. Discussion

The temporal elements box in Table 2 show the historical and seasonal crisis in the given situation. For this research study, slow development of innovative teaching methods and the historically slow development of IL in Pakistan are the main elements impacting the limited IL practice in schools. The identified important spaces or geographic locations (spatial elements) in the given situation were: school; library; home, tuition centre (women offer tuition at home); Quran reading place (where children read religious books); mosques (Muslims' place of worship); internet space; geographic area of school/home; fantasy world, and; relative's homes. These were the places where participants lived and spent their much time in learning, indicating that the activities performed at these places influenced their information behaviour and IL skills.

The findings show very limited use of the Internet by participant children, and that use is mostly for entertainment and religious purposes. Their poor IL skills are related to the lack of exposure to a variety of information sources in schools or homes, and the other factors discussed here. On the other hand, elite class private school children possessed good IL skills due to the teachers' innovative teaching practices, availability of reading books in the library and exposure to digital devices (iPads, Laptops etc) at their homes.

These results were in line with other studies (Ahmed, Mahmood, Ghuman, & Parveen, 2013; Das, Pandey, Zajonc, 2006; Lloyd, Mete & Grant, 2009;) in which researchers reported that rich and private school children performed better in their studies than poor and public school children. It was also discussed that students' academic scores differ based on geographic

location (different districts) of schools. This association is supported by the present study's results where schools located in better economic locations had better facilities. However, they lacked some skills, such as identifying specific information and identifying parts of books (e.g. a spine label, the difference between author and illustrator).

The ordered mapping also identified major issues which are barriers to the implementation of IL practice. These issues include: un-educated parents; children's lack of basic literacy; rote learning in schools; poor higher level planning, and; a lack of quality control on education (privatization). Overall, results from interviews, focus groups, observation, documents and task based activities showed that there was a limited role for family members (un-educated parents) and school teachers (due to poor planning, traditional teaching and low quality education) in the development of IL skills of primary school children. Thus, the environment was not supportive of the practice of IL in primary schools. Herring (2010) also noted that environment, socio-cultural perspectives and cognition have a great impact on the culture of transfer in schools (e.g. early information seeking experience could influence an individual's performance when they encountered information later).

The findings revealed that there was no IL practice integrated in classroom activities or in teachers' teaching methods in the selected primary schools. However, creative writing practice was reported in two schools. In the elite class private school, classroom activities involved creative writing and practice of thinking skills in order to organize information. It was an important finding which positively influenced the IL skills of this school's participant children.

The librarian and library teacher had no role in IL education and they were not aware of this concept. In the elite class private school, the role of library teacher was to run English language reading class and manage the issue/return of library books. In the public school, the role of librarian was more of teaching than managing the library. In these selected cases of schools, the library as a place was used as classroom, as a reading place, a place to sit quiet and a place to rest. No library services were observed in terms of IL instruction. It was found that both school libraries were offering meaningless library hours to school children. In contrast to findings from the present study, western studies (Mokhtar & Majid, 2006; Oberg, 2009) discussed and promoted the concepts of teacher librarian and school media library programmes in primary schools.

7. Conclusion

Homes are not only shelters, but also are learning places where children spent most of their time. Next to homes, schools are responsible in instilling knowledge and learning skills in children, including IL skills. Access to information sources and computer technology to become an independent learner is necessary for 21st century children. These children should have these facilities at home as well as at their schools. The situational analysis identified that the economic divide is a big obstacle in making school children IL literate.

The analysis presents a holistic picture of the situation and identifies that, in Pakistan, IL practice in primary schools is influenced by political, economic, socio-cultural, children's learning places (homes, schools) and attitudes of teachers and librarians. These mapping exercises highlighted different important elements of the situation which show that IL practice implementation is a complex process and is not just the territory of librarians.

This study contributes to IL literature by identifying and gathering multiple aspects of the IL practice situation in primary schools in Pakistan. No previous study gathered these important

elements in one place and applied an analytical mapping technique to see the situation through multiple lenses. These analytical mapping exercises provided an overall overview of the IL situation and will be helpful for future researchers to look into these identified arenas in depth. This analysis found that IL practice can be possible in primary schools in Pakistan by working out and changing political, economic, socio-cultural, home, school conditions and the practices and attitudes of teachers and librarians. By identifying distinct social arenas, and areas of relationship, conflict and silence, the research has opened up opportunities to focus on aspects where change is most needed, or is pragmatically more feasible.

Further possibilities for research and impact, building on the current study, include:

- Ethnographic study of information literacy practices in Pakistani families, given the problem of weak basic literacy skills of children and the role of their family members in supporting the children's development;

- Investigation into the practices of people giving extracurricular tuition, and ways in which they might be stimulated or motivated to include opportunities for developing information literacy;

- Participative research involving multiple stakeholders from an arena (e.g. teachers, tutors and religious and community leaders (learning arena), those providing professional education for teachers, and for librarians (professional attitude arena) to identify strategies for working together more effectively on IL;

- Action research studies of teachers who are motivated to improve their IL educational practice, and promotion of the learning and best practice which emerges;

- Using the researchers' analysis of IL in the national curriculum as a basis for teacher education and librarian education, including developing material which teachers and librarians could use in the core curriculum subjects, and;

- Connecting the findings to national policy objectives for literacy, employability and education, and lobbying for better implementation of IL within the national curriculum.

References

Ahmed, M., Mahmood, T., Ghuman, M., & Parveen, S. (2013). Is effective education in the hands of private schools or government? Comparative analysis between government and private sector. *Journal of Educational and Social Research, 3*, 359-365.

Ameen, K., & Ullah, M. (2016). Information literacy instruction: An Overview of research and professional development in Pakistan. In S. Kurbanouglu, J. Boustany, S. Špiranec, E. Grassian, D. Mizrachi, L. Roy, & T. Çakmak (Eds.), *Information literacy: Key to an inclusive society* (pp. 555–562). Cham: Springer International Publishing.

Baji, F., Bigdeli, Z., Parsa, A., & Haeusler, C. (2018). Developing information literacy skills of the 6th grade students using the Big 6 model. *Malaysian Journal of Library & Information Science, 23*(1), 1-15.

Batool, S.H., & Mahmood, K. (2012). Teachers' conceptions about information literacy skills of school children. *Pakistan Journal of Library & Information Science, 13*. Retrieved from http://pu.edu.pk/images/journal/pjlis/pdf/pjlis-13-batool.pdf

Batool, S.H., & Webber, S. (2017). Conceptions of school libraries and the role of school librarians: Findings from case studies of primary schools in Lahore. *Information*

Research, 22(1), CoLIS paper 1606. Retrieved from http://InformationR.net/ir/22-1/colis/colis1606.html

Batool, S.H., & Webber, S. (2018). A conceptual framework for primary education: Fostering information literacy in Pakistan. *Global Knowledge, Memory & Communication,* https://doi.org/10.1108/GKMC-06-2018-0060

Batool S.H., & Webber S. (2014). Early findings from a study of information literacy practices in primary schools of Pakistan. In: S. Kurbanoğlu, S. Špiranec, E. Grassian, D. Mizrachi, & R. Catts. (Eds.). *Information literacy: Lifelong learning and digital citizenship in the 21st century. European Conference on Information Literacy 2014.* (pp. 282-290). Cham: Springer.

Bhatti, R. (2010). An evaluation of user-education programmes in the University Libraries of Pakistan. *Library Philosophy and Practice, 2010.* Retrieved from http://digitalcommons.unl.edu/libphilprac/316/

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Chen, L.C., Huang, T-W., & Chen, Y-H. (2017). The effects of inquiry-based information literacy instruction on memory and comprehension: A longitudinal study. *Library & Information Science Research, 39,* 256-266.

Chu, S.K.W., Tse, S.K., & Chow, K. (2011). Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills. *Library & Information Science Research, 33*, 132-143.

Clarke, A.D. (2005). *Situational analysis: Grounded theory after the postmodern turn.* London: Sage.

Clarke, A. (2003). Situational analyses: Grounded theory mapping after the postmodern turn. *Symbolic Interaction, 26*, 553-576.

Cook, J.L., & Cook, G. (2005). Cognitive development: Piagetian socio-cultural   views.   In *Child development: Principles and perspectives*. New York, NY: Pearson Education. Retrieved   from https://us.sagepub.com/sites/default/files/kuther_lifespan_ch_06.pdf

Das, J., Pandey, P., & Zajonc, T. (2006). Learning levels and gaps in Pakistan. World Bank Policy Research Paper WPS4067, 1–47. Retrieved from http://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-4067

den Outer, B., Handley, K., & Price, M. (2013). Situational analysis and mapping for use in education research: A reflexive methodology? *Studies in Higher Education*, *38*, 1504-1521. doi:10.1080/03075079.2011.641527

Grace, D., & Sen, B. (2013). Community resilience and the role of the public library. *Library Trends, 61*, 513-541.

Government of Pakistan. (2017).Pakistan Education Statistics 2015-16. Retrieved from http://library.aepam.edu.pk/Books/Pakistan%20Education%20Statistics%202015-16.pdf

Han, H. (2018). Children's help-seeking behaviors and effects of domain knowledge in using Google and Kids.gov: Query formulation and results evaluation stages. *Library & Information Science Research, 40*, 208-218.

Herring, L. (2010). School students, question formulation and issues of transfer: A constructivist grounded analysis. *Libri*, 60, 218-229.

Herring, J. (1996). *Teaching information skills in schools.* England Library Association.

Information Literacy Meeting of Experts. (2003). Prague Declaration: Towards an information literate society. Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/PragueDeclaration.pdf

Irving, C. (2010). Begin at the beginning-information and critical literacy in curriculum for excellence early & first level nursery & primary schools [Power Point slides]. Retrieved from https://www.slideshare.net/cirving/begin-at-the-beginning-information-and-critical-literacy-in-curriculum-for-excellence-early-first-level-nursery-primary-schools

Khan, A-Q. (2013, February 9). School main libraries ki kami, talba main kutab beni ka sauq madom ho gya [Lack of libraries in schools: students lack reading habits]. *Roznama Dunya Lahore. Retrieved from* https://e.dunya.com.pk/index.php?e_name=ISL

Kousar, M. (2011). *Perceptions of faculty about the information literacy skills of postgraduate engineering students* (M.Phil. thesis). University of the Punjab, Lahore, Pakistan.

Lloyd, C.B., Mete, C., & Grant, M.J. (2009). The implications of changing educational and family circumstances for children's grade progression in rural Pakistan: 1997-2004. *Economics of Education Review*, *28*(1), 152–160. doi:10.1016/j.econedurev.2007.04.005

Lu, Y-L. (2010). Children's information seeking in coping with daily-life problems: An investigation of fifth- and sixth-grade students. *Library & Information Science Research, 32*, 77-88.

Lu, Y-L. (2011). Everyday hassles and related information behaviour among youth: A case study in Taiwan. *Information Research, 16*(1). Retrieved from http://InformationR.net/ir/16-1/paper472.html

McKeever, C., Bates, J., & Reilly, J. (2017). School library staff perspectives on teacher information literacy and collaboration. *Journal of Information Literacy, 11*(2), 51-68. https://doi.org/10.11645/11.2.2187

Mackenzie, A. (Comp.) (2005). Investing in staff i-skills: A strategy for institutional development. Retrieved from http://www.jisc.ac.uk/uploaded_documents/JISC-SISS-Investing-v1-09.pdf

Memon, G.R. (2007). Education in Pakistan: The key issues, problems and the new challenges. *Journal of Management & Social Sciences, 3*(1): 47-55.

Mokhtar, I.A., & Majid, S. (2006). An exploratory study of the collaborative relationship between teachers and librarians in Singapore primary and secondary schools. *Library & Information Science Research 28*, 265–280.

Montiel-Overall, P. (2008). Teacher and librarian collaboration: A qualitative study. *Library & Information Science Research, 30*, 145-155.

Oberg, D. (2009). Libraries in schools: Essential contexts for studying organizational change and culture. *Library Trends, 58*, 9-25.

Pakistan Bureau of Statistics. (2018). Population size and growth of major cities. Retrieved from http://www.pbs.gov.pk/content/population-size-and-growth-major-cities

Punjab Curriculum & Textbook Board (2014). Curriculum implementation Punjab Framework 2014. Retrieved from https://pctb.punjab.gov.pk/All_Curriculum

Ranaweera, P. (2008). Importance of information literacy skills for an information literate society. In *NACLIS 2008, Colombo (Sri Lanka),* (pp. fill in pages). June 24, 2008. Retrieved from http://eprints.rclis.org/11956/

Reynolds, L., Willenborg, A., McClellan, S., Linares, R.H., & Sterner, E. (2017). Library instruction and information literacy 2016. *Reference Services Review, 45*, 596-702.

Robin, A. (2011). *Implementation of information literacy in secondary schools in England and in France* (MA Librarianship dissertation). University of Sheffield, Sheffield, England.. Retrieved from http://dagda.shef.ac.uk/dispub/dissertations/2010-11/External/ARobin_Dissertation_Anne-Lise_Robin_100140589.pdf

Ryan, J., & Capra, S. (2001). *Information literacy toolkit: Grades Kindergarten-6*. Chicago: American Library Association.

Saitis, C., & Saiti, A. (2004). School libraries in Greece: A comparative study of public primary schools in rural and urban areas. *Library and Information Science Research, 26*, 201-220.

Sen, B.A. (2014). Community, complexity, the public library and community orientation. *Library Review, 63*, 505-518.

Sen, B.A., & Spring, H. (2013). Mapping the information-coping trajectory of young people with long term illness: An evidence-based approach. *Journal of Documentation*, *69*, 638–666.

Shahid, S. (2016). *Exploring information literacy practices in primary schools: A case of Pakistan*. (PhD Dissertation). University of Sheffield, Sheffield, England.

Smalley, T.N. (2004). College success: High school librarians make the difference. *The Journal of Academic Librarianship, 30*, 193-198.

Spratling, R. Coke, S., & Minick, P. (2012). Qualitative data collection with children. *Applied Nursing Research, 25*, 47-53.

Streatfield, D., Shaper, S., Markless, S., & Rae-Scott, S. (2011). Information literacy in United Kingdom schools: Evolution, current state and prospects. *Journal of Information Literacy, 5*(2), 5-25.

Thomas, G. (2011). *How to do your case study: A guide for students and researchers*. London: Sage.

Todd, R.J., & Kuhlthau, C.C. (2004). Student learning through Ohio school libraries: Background, methodology and report of findings. Retrieved from https://journals.library.ualberta.ca/eblip/index.php/EBLIP/article/download/91/21535/

UNESCO. (2018). Media and information literacy for teachers. http://unesco.mil-for-teachers.unaoc.org/foreword/core-teacher-competencies/

Vasconcelos, A.C, Sen, B.A., Rosa, A., & Ellis, D. (2012). Elaborations of grounded theory in information research: Arenas/social worlds theory, discourse and situational analysis. *Library and Information Research, 36*, 120-146.

Walker, C. (2012). The information world of parents: A study of the use and understanding of information by parents of young children. *Library Trends, 60*, 546-568.

Walter, V.A. (2010). *Twenty-first-century kids, twenty-first-century librarians*. Chicago: American Library Association.

Williams, D.A., & Wavell, C.W. (2007). Secondary school teachers' conceptions of student information literacy. *Journal of Librarianship and Information Science, 39*, 199-212.

Wilson, C., Grizzle, A., Tuazon, R., Akyempong, K., & Cheung, C-K. (2011). *Media and information literacy curriculum for teachers*. France:UNESCO.

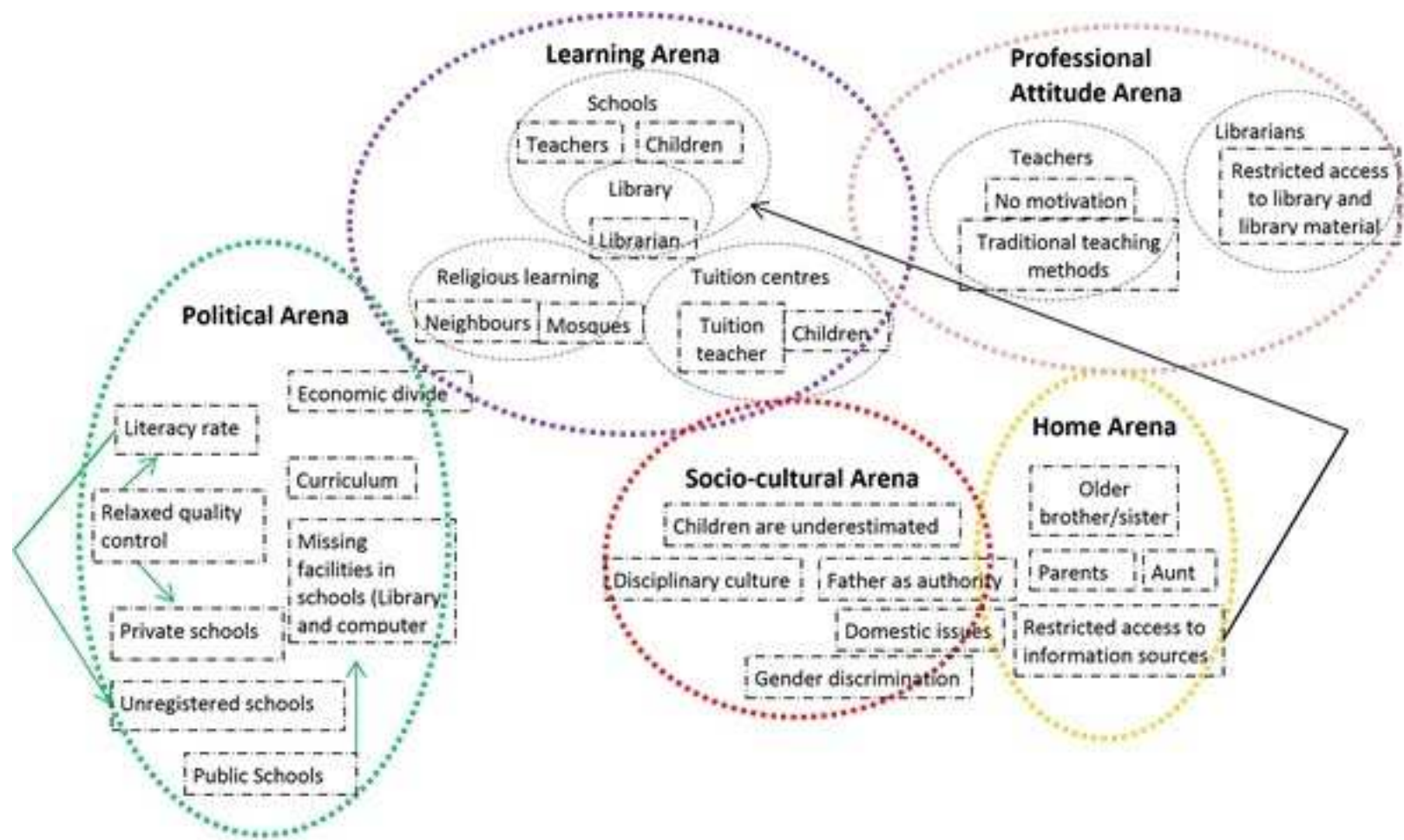Figure 1. View of a Public School's Library Room with only two book racks

Figure 2. Information Literacy Education Social Arenas

Table 1. Important elements that emerged from analysis.

Elements related to state of the country	Elements related to Parent/ Children/ Family members/ Home	Elements related to teachers	Elements related to Public/ NGO/ Un-registered Schools	Elements related to Private Schools
Lack of higher level planning	Restricted access to information sources particularly for girls	No lesson planning	Dull and dark traditional learning environment	Subject teachers in elite class private schools
Private un-registered schools	Uneducated parents	Missing inquiry based learning	No hiring of professional librarians	Easy access to private schools
No regular curriculum revision	Weak role of children's family members in studies	Teaching strategy to memorize	Inflexible curriculum	Insufficient use of technology
Political instability	Insufficient use of technology		No provision of teaching material	Innovative and learning environment in elite class private school
	Domestic issues		No activity based teaching	Librarian is teaching more than doing library work
	Economic issues		No involvement of parents in schools' policies	
	Children's basic literacy		No provision of teaching material	
			Text book teaching	
			No collaboration between teachers and librarians	
			Non-availability of A/V material	
			Librarian is teaching more than doing library work	

Table 2. Ordered situational mapping.

Clarke ordered mapping headings	Situations or factors for Pakistani school children
Individual Human Elements/Actors	Policy maker School owner Teacher Librarian Child Family-mother, elder brother/sister
Non-Human Elements/Actants	Political planning and un-realistic education policies (curriculum) Schools' learning environment Library Homes Information literacy
Collective Human Elements/Actors	Policy makers Private School Owners Head Teachers Teachers Older family members School librarians
Discursive Constructions of Individual and/ or Collective Human Actors	Teachers' role and attitude Librarians' role and attitude Children's information behaviour, attitude and skills Older family members' role and attitude Role of tuition teacher

Implicated/Silent/Actors/Actants	Role of father
	Role of public Libraries
	Role of library schools
	Role of professional library organizations
Political Economic Elements	Political instability
	Economic issues
Discursive Constructions of Non-Human Actants	Traditional, unexciting learning environment
	Meaningless library hours
	Forced learning at schools and homes
	Use of text books as curriculum
	Learning gaps in curriculum
	No information literacy awareness
	Limited exposure to information sources
	Poor IL skills
	Poor schools' infrastructure (non-availability of libraries,
	computer labs, teaching material etc.)
Temporal Elements	Development of teaching methods
	Historical development of IL
Socio-cultural/Symbolic Elements	Mother as helpful in studies
	Restricted access to information sources
	Disciplinary culture
	Girls are not given priority
	Domestic issues
	City public school buildings
	Younger children are not suitable to use computer, internet

Major Issues	Illiterate Parents
	Children basic literacy
	Rote learning
	Proliferation of un-registered private schools
	No quality control on education
	Lack of planning at government level
	Least priority to the development of libraries, media centres, community centres, public libraries
Spatial Elements	School as place
	Library as place
	Home as place
	Tuition as place
	Quran reading place
	Mosque
	Internet space
	Geographic area
	Fantasy world
	Relatives' homes

Biography

Dr. Syeda Hina Batool is an Assistant Professor in the Department of Information Management, University of the Punjab, New Campus, Lahore, Pakistan. She completed her PhD in library and information management from the ISchool, University of Sheffield, UK. She passed her masters of philosophy and master's degree from the University of the Punjab with distinction. Her primary research interest is investigating information literacy (IL) and information seeking. However, her other key research areas are school libraries, library management and ICT (information communication & technology) applications in information centres. Her research is published in a number of renowned journals including *Information Development, Information Research and Libri (The International Journal of Libraries and Information Studies)*.

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