

ICT Differences in Islamic Education

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The use of digital learning approaches has dramatically enhanced the ability to learn new ideas and skills faster and often more collaboratively, resulting in the growing appetite of the new generations to seek knowledge. There has been excessive literature on this subject since the late 1990s and continued with the emergence of social media and Web 2.0 evolving around the world. In more economically developed countries (MEDC), it is estimated over 80% of learners have access to social media applications with internet connection at school and the home. It is evident that 21st century learning is highly technology-oriented, involving multiple mobile technology tools (such as laptops, smartphones, iPads, and tablets) and web-based online applications (such as Google, YouTube, Wikipedia and MOOCs). Therefore, this growing ubiquitous dependency on technology has driven educators to reconsider their teaching methods and adopt at an unprecedented pace of technology tools. Against this background of the close relationship between the schools, home and the community, we often see challenges in access to ICT as a learning tool. For example, some children experience these challenges at school, but also in the wider community. Differences in access and use of ICT between pupils from different socioeconomic backgrounds are well researched. Most research on different minority groups in the field of education and ICT has been on gender and economic differences and to a lesser extent on minority ethnic and religious differences. There remains a need for research to be conducted into ICT

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differences that builds on the research into gender and ethnic minority pupils, but specifically focusing on religious communities.

This paper endeavours to explore ICT differences in the context of Muslim learners. It is distinctive in adopting the premise that there is a unity in Muslim cultural identity that increasingly transcends ethnicity and gender. As a proxy, this paper uses an Islamic understanding of cultural identity, and, in part, this resonates with aspects of Hofstede's dimensions specific to "power-distance" and "long-term orientation".¹ Schein defined culture as the deeper level of basic assumptions and beliefs that are shared, operate unconsciously, and that define, in an intuitive way, ourselves and the environment.² This definition shares an affinity with an Islamic understanding of humanity and the environment, which is represented by three interrelated dimensions of *Fitrah* (primordial human nature), *khilāfah* (vicegerency) and *Dīn* (Religion). For Muslims, these dimensions demonstrate that the teachings of the Qurān are integral to cultural and religious identity.³ For example, Horn and Wiburn indicated that the impetus for learning is based on the realisation that pedagogy requires an appreciation by pupils that knowledge is derived from both teacher and lived experiences.⁴ This realisation is of particular importance in the field of Islamic education. The concept of revealed and acquired knowledge being equally accepted in Islamic teaching and learning provides an insight into cultural identity that may influence ICT differences in access and use.

It is important to understand the fluidity of the Muslim diaspora, which has strong ties to both cultural and religious traditions. Islam is one of the most prominent religions in the world and is represented by an unprecedented growth in global citizens stating their religious identity as Muslim. The

¹ G. Hofstede, G. Hofstede & M. Minkov, *Cultures and organizations: software of the mind (3rd ed.)*, New York: McGraw Hill, 2010

² Edgar H. Schein, "Corporate culture is the key to creativity," *Business Month*, 1989, pp. 73–75

³ Meryll Wyn Davies, *Knowing One Another: Shaping an Islamic Anthropology*, London and New York: Mansell Publishing Limited, 1988

⁴ Jim Horn & Denise Wiburn, "The embodiment of learning," *Educational Philosophy and Theory*, 37, no. 5, 2005, pp. 745–760

international Muslim learner needs to transcend race, ethnicity, and linguistic backgrounds. Even though the Muslim diaspora is diverse it is important to note we proceeded here based on the premise that the unity of Muslim identity needs to transcend ethnic differences. This moves our understanding more closely to a type of strategic essentialism.¹ The pedagogical variant of this means that although Muslims are multi-cultural in nature, it is the faith dimension of their lived experiences which provides unifying character.² The faith dimension is pivotal to religious and cultural identity and wider Islamic governance. In Islam, the Qurān acts as an educational compass. Even though there are some differences in the cultural context of Islamic education, the underlying teaching and learning strategies demonstrate universal behavioural patterns rooted in a spiritual rather than a cultural construct.³ The international Muslim community faces striking challenges in engaging with mainstream education systems and this can be seen as one reason why Islamic schools have gradually been re-emerging.^{4,5}

The British Muslim community is a good example of this phenomenon. Their desire for more spiritual schooling has seen the emergence of over 100 independent schools with an Islamic ethos. These schools represent over 14,000 pupils and most are from Asian communities in predominantly inner-city areas. Typically, Islamic educational institutions combine both secular and religious education and they are typically based in homes, mosques and custom designed buildings led by parents, community leaders, and government institutions. Islamic faith schools are often considered “community-based schools”.⁶ It is important to note the integral role of the wider Muslim community in shaping Islamic educational

¹ Gayatri Chakravorty Spivak, “Can the Subaltern speak?” in *Marxism and the interpretation of culture*, eds. C. Nelson & L. Grossberg, Urbana, IL: University of Illinois Press, 1988

² Marie Parker-Jenkins, *Children of Islam: A Teacher's Guide To Meeting the Needs of Muslim Pupils*, London: Trentham Books, 1995

³ A'ishah Ahmad Sabki & Glenn Hardaker, “The madrasah concept of Islamic pedagogy,” *Educational Review* 65, no. 3, 2012, pp. 342–356

⁴ Tahir Abbas, “Educating Muslims: current national and international debates,” *British Journal of Sociology of Education* 29, no. 2, 2008, pp. 243–245

⁵ Hugh Barnes, *Born in the UK: Young Muslims in Britain*, London: Foreign Policy Centre, 2006

⁶ Chris Hewer, “Schools for Muslims,” *Oxford Review of Education*, 27, no. 4, 2001, pp. 515–527

institutions, which often bridges both formal and informal learning. For example, the supplementary education provided in a *madrasah* (religious school) typically expands on the more limited religious teachings provided in mainstream schools.

This paper is structured as follows: first, it provides an overview of the characterising features of ICT access, use and difference, while discussing their perceived influence on digital learning. Tentative suggestions are made in the final part of the paper to support an Islamic system of governance through an inclusive approach towards the ICT adoption for digital learning.

Characteristic Features of ICT Access, Use and Difference

Four main differences between learners were identified in previous research on the use of ICT in education: differences in learner participation in ICT activities at school and their home; differences in knowledge about ICT and knowledge that is a consequence of learning with ICT; differences in learner attitudes; and differences in pupils' ways of working with ICT. This paper now explores the research that has been conducted into ICT access and use, digital equity for social inclusion, and ICT differences in the context of gender, ethnicity and religion. It is intended to provide an insight into ICT differences through an inclusive Islamic lens that provides an enabling approach towards integration of digital learning.

- **Challenges to ICT Access and Use**

The use of ICT in educational institutions is broadly viewed by educationalists as being an effective method for extending the role played by social groups and their engagement in mainstream learning.¹ Another side of this proposition was identified by Helsper, who found that limited access to technologies and technological skills can be a barrier to learner engagement, which may lead to patterns of exclusion. Even with access,

¹ Neil Selwyn, *Education and technology: key issues and debates*, UK: Continuum Publishing Corporation, Bloomsbury Publishing, 2011

we can see there are other major challenges due to gender, ethnicity and religion that shape the socialisation process; therefore, ICT use is impacted by the norms of these groups.¹ These socialisations often encourage certain ideas of participation in society. In increasingly information-based societies, this includes ideas about whether, and how, one should engage with technologies.^{2,3} The idea that the computer has innate educational features is deeply embedded into teachers' and pupils' understanding of ICTs' role in formal and informal settings. These ideas are further influenced in Islamic educational institutions based on the close relationship between teachers, pupils and families that reflects the wider Muslim community. The proposition that points to the existence of Muslim learners who are deeply shaped by both Islamic faith schools and the norms and beliefs of the wider community leads us to reflect on how these influences shape the learning experience. Hardersen and Guðmundsdóttir reported on a wide range of digital devices used among young people, and that many parents have a positive perception of the use of these digital devices by their children for their learning development.⁴ It is also recognised that restricted access to ICTs could lead to educational exclusion because of pupils' inability to access ICT and communicate with their peers and teachers.⁵

Limited digital access and use has the potential for digital exclusion, which is closely aligned to social exclusion. For example, many research studies have suggested that ICT-enriched classrooms tend to produce more student-centred and group interactions.^{6,7} Integral to these interactions are

¹ E. J. Helsper & S. Godoy-Etcheverry "The long tail of digital exclusion: The social context of digital (dis)engagement in Chile and the UK," In *The linked world: How information and communication technology is transforming societies, cultures, and economies*, Washington, MA: Conference Board Press, 2011

² Susan Halford & Mike Savage, "Reconceptualising digital social inequality," *Information, Communication & Society*, 13, no. 7, 2010, pp. 937–955

³ Neil Selwyn, "Hi-tech = guy-tech? An exploration of undergraduate pupils' gendered perceptions of information and communication technologies," *Sex Roles*, 56, no. 7–8, 2007, pp. 525–536

⁴ Barbro Hardersen & Gréta Björk Guðmundsdóttir, "The digital universe of young children," *Nordic Journal of Digital Literacy*, 7, no. 3, 2012, pp. 221–226

⁵ Ibid., p. 1

⁶ Jennifer Groff & Chrystalla Mouza, "A framework for addressing challenges to classroom technology use," *Association for the Advancement of Computing in Education Journal*, 16, no. 1, 2008, pp. 21–46

⁷ Sarah Payton & Cassie Hague, *Digital literacy in practice: case studies of primary and secondary classrooms*, Bristol: Futurelab, 2009

pupil access to digital resources, which has become a necessary part of their learning experience.¹ For many schools, the emergence of open educational resources (OERs) has improved access and eased the exchange and reuse of educational resources.² The robust development of OERs and supporting educational repositories provides the potential for interconnectedness between schools, families and communities.³ However, challenges remain in some subject-specific areas for both teachers and pupils, where OER content is still emerging as a resource.⁴ Page provided an early insight into how subject-specific digital classrooms, such as science and design technology facilities, have a positive effect on disadvantaged groups and help override educational technology disparities in and outside the school.⁵ In addition to the mainstream challenges of understanding the role of ICTs in the classroom, there remain challenges for disadvantaged groups who may have a lack of home ICT access and knowledge of how ICT can be used for learning. This is, in part, counter to the idea of pupils being “digital natives” and begins to touch on the complexities of ICT access and use inside and outside school for many Muslim communities. This paper will now provide a brief review of research into social inclusion and digital equity, and the role of ICTs in teaching.

- **Digital Equity for Social Inclusion**

The presence of “digital exclusion” gives rise to the need for participatory procedures and techniques, but often school efforts remain inadequate in

¹ J. Seale & M. Cooper, “E-learning and accessibility: an exploration of the potential role of generic pedagogical tools,” *Computers & Education*, 54, no. 4, 2010, pp. 1107–1116

² Tom Carey & Gerard L. Hanley, “Extending the impact of open educational resources through alignment with pedagogical content knowledge and institutional strategy: lessons learned from the MERLOT community experience,” in *Opening up education: the collective advancement of education through open technology, open content, and open knowledge*, eds. T. Iiyoshi, V. S. M. Kumar & S. J. Brown, The MIT Press, 2008

³ Xavier Ochoa & Erik Duval, “Quantitative analysis of learning object repositories,” in *World conference on educational multimedia, hypermedia and telecommunications*, eds. J. Luca & R. E. Weippl, 2008, p. 6031

⁴ Michael Klebl, Bernd J. Krämer & Annett Zobel, “From content to practice: Sharing educational practice in edu-sharing,” *British Journal of Educational Technology* 41, no. 6, 2010, pp. 936–951

⁵ Michael S. Page, “Technology-enriched Classrooms: Effects on Students of low Socioeconomic Status,” *Journal of Research on Technology in Education* 34, no. 4, 2002, pp. 389–409

overcoming digital exclusion.^{1,2} The characteristics of social exclusion are instrumental in digital exclusion, and continue to shape inequalities and disharmonies in schools and the wider community.³ For the purpose of this paper, digital equity is described as equitable ICT access and use for all learners to enable them to enhance their digital knowledge while not being prejudiced by gender, ethnicity, economic, or religious differences.^{4,5} According to Kvasny, digital inequality expresses not just inequalities in access and application of ICT, but highlights the methods of long-held social unjustness that moulds patterns of thinking and what is expected with respect to ICT.⁶ Digital inequality also involves the positional anguish experienced by learners who assume a weak position in society.⁷ Although Chapman, Masters and Pedulla argue that the literature on school-based digital equity is declining,⁸ according to Williamson it is actually shifting.⁹ In previous research, access and vital conditions were identified in the school context;¹⁰ however, the majority conceptualise access and conditions by including pupils' beyond-school access to the wider community. Other research also addressed pupils' access to social media platforms that provide significant social support to develop learning.¹¹ However, the present deliberations of ICT difference go further and focus

¹ A. Pike & A. Adams, "Digital exclusion or learning exclusion? An ethnographic study of adult male distance learners in English prisons," *Research in Learning Technology* 20, 2012, pp. 186-200

² Martyn Warren, "The digital vicious cycle: Links between social disadvantage and digital exclusion in rural areas," *Telecommunications Policy* 31, no. 6-7, 2007, pp. 374-388

³ Ibid.

⁴ Michele Knobel & Colin Lankshear, "Digital literacy and digital literacies: Policy, pedagogy and research," *Nordic Journal of Digital Literacy* 1, 2006, p. 12-24

⁵ Glenn Hardaker, Richard Dockery, & A'ishah Ahmad Sabki, "Cognitive learning styles and digital equity: searching for the middle way," *International Journal of Inclusive Education* 14, no. 8, 2010, pp. 777-794

⁶ Lynette Kvasny, "Cultural (re)production of digital inequality in a US community technology initiative," *Information, Communication & Society* 9, no. 2, 2006, pp. 160-181

⁷ Ibid.

⁸ Lauren Chapman, Jessica Masters & Joseph Pedulla, "Do digital divisions still persist in schools? Access to technology and technical skills of teachers in high needs schools in the United States of America," *Journal of Education for Teaching: International research and pedagogy* 36, no. 2, 2010, pp. 239-249

⁹ Jo E. Williamson, "Digital equity in schools: an overview of current trends," *International Journal of Cyber Ethics in Education* 1, no. 1, 2011, pp. 12-24

¹⁰ Chapman, Masters and Pedulla, "Do digital divisions still persist in schools?"

¹¹ Peiling Wang, William B. Hawk & Carol Tenopir, "Users' interactions with World Wide Web resources: An exploratory study using a holistic approach," *Information Processing and Management* 36, no. 2, 2000, pp. 229-251

upon pupils' broader access to ICTs by considering what ways their access, or lack of it, influences their potential for learning.^{1,2}

An equitable approach towards ICTs is largely the responsibility of educational institutions first and of the wider community second, e.g. home access to ICTs impacts upon education in various ways from completing assignments to accessing subject-specific content knowledge.³ Less is known about pupils' use of ICTs at home, their social media use outside educational institutions or how these factors influence their learning. The provision of ICTs to pupils at school remains an important step towards digital equity;^{4,5} however, unequal home and community access and use remains a significant challenge in expanding pupils' learning opportunities. Young people's lives are increasingly mediated by ICTs at school, at home and in the wider society.⁶ Therefore, digital equity research needs to move beyond the currently accepted boundaries of digital access and deal with the psychological, social and religious complexities of formal and informal education as represented by schools, home and society.⁷

Olofsson, Lindberg, Fransson and Hauge and Skaar identified how ICTs in the classroom and the wider community contribute to pupils' perceptions of their abilities that they assign to themselves during ICT use in the classroom. They found that these perceptions had an impact on pupils' learning process.^{8,9} Individual differences and the relationship between the

¹ Chapman, Masters and Pedulla, "Do digital divisions still persist in schools?"

² Williamson, "Digital equity in schools."

³ Scott Bulfin & Sue North, "Negotiating digital literacy practices across school and home: Case studies of young people in Australia," *Language and Education* 21, no. 3, 2007, pp. 247–263

⁴ Alvaro Salinas & Jaime Sánchez, "Digital inclusion in Chile: Internet in rural schools," *International Journal of Educational Development* 29, no. 6, 2009, pp. 573–582

⁵ Jaime Sánchez, Alvaro Salinas, David Contreras & Eduardo Meyer, "Does the new digital generation of learners exist? A qualitative study," *British Journal of Educational Technology* 42, no. 4, 2011, pp. 543–556

⁶ Sonia Livingstone & Ellen J. Helsper, "Gradations in digital inclusion: children, young people and the digital divide," *New Media & Society* 9, no. 4, 2007, pp. 671–96

⁷ Javed Iqbal, Glenn Hardaker & A'ishah Ahmad Sabki, "The face of digital literacy for Muslim teenage girls: a comparative study of Bradford Muslim girl schools," *International Journal of Inclusive Education* 18, no. 12, 2014, pp. 1283–1303

⁸ Anders D. Olofsson, J. O. Lindberg, G. Fransson & T. E. Hauge, "Uptake and use of digital technologies in primary and secondary schools – a thematic review of research," *Nordic Journal of Digital Literacy* 6, no. 4, 2011, pp. 207–225

⁹ Håvard Skaar, "The relevance and educational value of social network sites for classroom literacy learning," *Nordic Journal of Digital Literacy* 6, 2011, pp. 340–356

classroom and the wider community raise pertinent issues related to the implications of ethnicity, gender and religion on learning.

- **ICT Differences in the Context of Gender, Ethnicity and Religion**

Insufficient attention has been paid to the relationship between ethnicity, gender and religion and to whether these factors influence ICT differences. Inequalities and the allocation of socially valued resources continue to be shaped for young Muslims by the interplay of gender, ethnicity and religion.¹ Volman and Van Eck and Volman, Van Eck, Heemskerk and Kuiper previously identified the need for a deeper understanding of the complexities of inequalities of ICT use in schools and for research that simultaneously examines gender, ethnicity and religion.^{2,3} In particular, very limited research has been performed on ethnic and religious differences in knowledge, ICT and learner attitudes. Most research in the field of ICT differences is mainly on gender differences. For example, Sutton focused on gender, race and class, but found considerably more research on gender than on the other two characteristic features.⁴ It continues to be a recognised fact that there are significant gender differences in ICT use both at home and at educational institutions. This remains, even with improvements in access to ICT resources both at school and at home. For example, significant attention has been given to ICT participation and gender differences. Early research found that in the home, especially, girls worked less with computers than did boys.⁵ Previous research studies also found gender difference in ICT use is highest in primary education and this gradually diminishes in secondary school. Recent studies show that some gender differences in ICT use at

¹ Floya Anthias, "The concept of 'social division' and theorising social stratification: looking at ethnicity and class," *Sociology* 35, no. 4, 2011, pp. 835–854

² Monique Volman & Edith van Eck, "Gender equity and information technology in education. The second decade," *Review of Educational Research* 71, no. 4, 2001, pp. 613–631

³ Monique Volman, Edith van Eck, Irma Heemskerk & Els Kuiper, "New technologies, new differences. Gender and ethnic differences in pupils' use of ICT in primary and secondary education," *Computers & Education* 45, no. 1, 2005, pp. 35–55

⁴ Rosemary Sutton, "Equity and computers in the schools: A decade of research," *Review of Educational Research* 61, no. 4, 1991, pp. 475–503

⁵ Alan Durnell & Karen Thomson, "Gender and computing: A decade of change?" *Computers & Education* 28, no. 1, 1997, pp. 1–9

school continue to exist. Other research suggests that gender differences are diminishing or may be related to pupils' age. In addition, studies on gender differences and ICT continue to provide limited insight into various ICT applications and the roles of boys and girls in their use.

Similarly, to gender differences, it is observed that there is limited research into ICT and ethnicity in use and the differences in use for their learning. Volman and colleagues explained the differences between pupils from an ethnic-minority background, and from the majority population, and how access to certain forms of ICT outside school were confirmed in school rather than being compensated.¹ When considering the use of ICT outside school, Dutch research showed that differences between families from an ethnic-minority background and from the majority population in ICT ownership and Internet use were decreasing.² This illustrated a trend where research has shown improvements in access for ethnically diverse groups. With regards to the types of ICT use, ethnic differences were identified, but this was based on limited available research. What we do know, from the limited research, is that pupils from ethnic-minority backgrounds seem to show some ICT differences in use compared to the majority population.³ Even though various research studies found clear differences in ICT use, they provide limited insights into the underlying reasons for these differences. The distinctive aspect of our research into ICT differences is in our adoption of the premise that unity in Muslim cultural identity is increasingly transcending ethnicity and gender for the Muslim community. This premise is based on research that seems to indicate a diminishing relevance of gender and ethnicity on ICT difference, which helped identify the need for continued research.

¹ Volman, Van Eck, Heemskerk & Kuiper, "New technologies, new differences"

² Jouke De Haan, Franciscus Huysmans & J. M. Steyaert, "Van huis uit digital: verwerving van digitale vaardigheden tussen thuismilieu en school [Digital by origin: Acquiring digital skills between the home environment and school]," *Den Haag: Sociaal Cultureel Planbureau*, 2002

³ Volman, Van Eck, Heemskerk & Kuiper, "New technologies, new differences"

Tentative Suggestions

There are many similarities with Islamic and other educational institutions on the challenges of ICT becoming more ubiquitous in our daily lives. The essence of our findings on Islamic educational institutions are focused on new insights into the symbiotic relationship between ICT access in the home and the school, how formal or informal teaching is facilitating by subject-specific online resources, and finally how ICT differences, for some, leads to digital inequity through access restrictions to content knowledge and the associated teaching styles. From the author's research into Islamic educational institutions, learner experiences suggested that educational priorities for the use of ICTs followed a pragmatic approach reflecting the symbiotic relationship between ICT access in Islamic schools and the wider community. Some of the learners' experiences identified a personalised approach that is often seen in Islamic education research studies,¹ but this personalised approach often reflected a didactic style to teaching. The didactic approach is deeply rooted in Islamic pedagogy and can be seen by the Muslim belief in **قُل** (say!), which is represented throughout the Qur'ān as prophecy or revelation from Allah *ta'āla*. It is proposed that this belief in **قُل** represents the Islamic root of the didactic teaching approach that endures in Islamic schooling and has become part of the teachers' cultural identity shaped by their religious beliefs. The didactic teaching style identified by many pupils was seen to be an extension of home and the supplementary *madrasah*. Similarly, school was for many also an extension of the home and *madrasah* practices, in particular. The challenge for many pupils was that these practices contrasted with their social lifestyles, with their peers, where autonomy and choice was integral to a generation and where smartphones and social media applications were commonplace.

Bennett, Maton and Kervin suggested that most young people have increasingly diverse cultural experiences and intuitively use mobile

¹ Sabki & Hardaker, "The madrasah concept of Islamic pedagogy."

technologies to support their personal lifestyle choices.¹ However, it is observed that most learners indicate that supplementary schooling in *madrasah* and their homes were closely aligned with their Islamic education, and in turn, this influenced their technology access and use and reinforced the established didactic style of teaching. This paper proposes the didactic style of teaching and learning is part of the cultural identity of teachers and learners and shaped by the Qurʾān, which acts as an educational compass. It is observed that Islamic educational institutions are struggling with similar issues to mainstream schools, but there is a frequent perception of additional challenges by the didactic teaching style and restricted access to online resources. These challenges were shaped inside and outside school to reflect the typical teaching style in Islamic schools.^{2,3} The research on access to online educational resources suggested that Islamic teachings were a cross-cutting theme integral to many subjects. Consequently, this paper provides tentative findings that the Islamic influence is pervasive in educational resources and this influence seems to be facilitated by formal and informal teaching practices. We can see signs of the adoption of an Islamic pedagogy that uses the concept of the inseparable nature of knowledge and the sacred.⁴

This paper identified how online resources and the influence of Islam was supported by the didactic approach. It highlights similarities with pedagogical techniques found in the early Qurʾānic schools.^{5,6} The personalised approach of the early *madrasah* was also reflected in the supporting educational resources provided by the schools. For example, the early Qurʾānic schools supported cultural differences through adaptive teaching techniques, and environments fostering individual learning were

¹ Sue Bennett, Karl Maton, & Lisa Kervin, "The 'digital natives' debate: a critical review of the evidence," *British Journal of Educational Technology* 39, no. 5, 2008, pp. 775–786

² Glenn Hardaker & A'ishah Ahmad Sabki, "Islamic pedagogy and embodiment: an anthropological study of a British madrasah," *International Journal of Qualitative Studies in Education*, 2014, pp. 1–14

³ Sabki & Hardaker, "The madrasah concept of Islamic pedagogy."

⁴ Seyyed Hossein Nasr, *Knowledge and the sacred*, Albany: State University of New York Press, 1989

⁵ Helen N. Boyle, "Memorization and learning in Islamic schools," *Comparative Education Review* 50, no. 3, 2006, pp. 478–495

⁶ Hardaker & Sabki, "Islamic pedagogy and embodiment."

commonplace. Unfortunately, most traditional Islamic schools today have lost the individualised education that was tailored to the child's needs.¹ In contrast, research in the Islamic educational institutions found limited insights into instructional strategies that support the use of adaptive ICT that can be utilized based on individual style differences. Further research is needed on Islamic educational institutions and their relationship to the wider Muslim community. It was evident from Islamic educational institutions that some ICT access was provided for communication applications such as email and the Internet, but often access is limited and restricted to the school's subject-specific software applications. Similar to Selwyn, there was limited research evidence for the use of ICT transforming pupils to learn.² The interviews showed some indications that ICTs provided more autonomy for self-directed learning activities. This paper also suggests that pupils saw no ethnic differences in their ICT access and use, which confirms the research of Parker-Jenkins, who saw that the faith dimension provides the unifying characteristics of daily life. This was found to be the situation for Muslims learners, where the Qur'ān continued to provide an educational compass underpinning cultural differences.³

It has been identified that there is a significant digital inequity in the schools, even though this may be viewed as unintentional. Even though significant ICT application is observed in Islamic educational institutions, there is a lack of support for social media and interactive learning applications, and also limited number of teachers available who could facilitate ICT participation. Such challenges are experienced in Islamic educational institutions because of the Islamic traditions towards teaching and learning practices and the personalised nature of the teacher–student relationship. For instance, the Islamic schools in our study were found to resonate with a didactic approach toward teaching. This was identified as

¹ Helen N. Boyle, "The Growth of Qur'anic Schooling and the Marginalisation of Islamic Pedagogy: The Case of Morocco", 2001

² Neil Selwyn, "Faceworking: Exploring Students' Education-Related Use of Facebook," *Learning, Media and Technology* 32, no. 2, 2009, pp. 157-174

³ Parker-Jenkins, *Children of Islam*

being especially challenging for cohorts of learners who are now accustomed to sustained levels of independent ICT use in their everyday lives. These inequities in access and use were illustrated by the “drill and practice” approach to some of the teaching practices.¹ Schools were framed and situated by an Islamic perspective to learning where the cultural identity of Muslims is based on deep assumptions and beliefs that knowledge is derived from what Horn and Wiburn called the “explainer” and associated “experiences”.² In Islamic schools, the teacher is the “explainer” and their role is based on the Islamic belief in the Qurʾān manifesting from prophecy or “divine” pedagogy. It is found that restrictions to ICT access were compounded in the Islamic schools by what seemed to be a conscious decision to limit the access and use of specific subject-specific resources and participatory technologies. This is seen to be a similar challenge to mainstream schools in dealing with the growing “digital disconnect”.

This paper has endeavoured to provide further insight, from a learner perspective, on specific issues related to ICT differences in access and use. The need for schools to provide an open approach to access and use of ICTs were expressed in the experiences and practices of learners. There is a continued need for a “diversity-orientated” approach to ICT access and use in Islamic educational institutions. This paper contributes further to this field of research by situating the discussion on Muslims and extends the current research into ICT differences beyond gender and ethnicity. This paper proposes that the Islamic context of educating differs from that in the mainstream schools and is framed by the wider Muslim community, including the home and supplementary Islamic schooling. It suggests the governance of Islamic educational institutions needs to adopt a “diversity-orientated” approach to ICT adoption that is rooted in digital equity and inclusion. In particular, it highlights a need for large-scale empirical studies into the integration of ICT and how this may be shaping access to knowledge content, the relationship between the supplementary schooling

¹ Volman, Van Eck, Heemskerk & Kuiper, “New technologies, new differences”

² Horn & Wiburn, “The embodiment of learning”

and Islamic educational institutions, and how ICT differences in education influences a “diversity-orientated” approach towards learning opportunities.