

Mobile Learning for Refugees

Subjects: **Education & Educational Research**

Contributor: Maria Drolia , Michail Kalogiannakis , Eirini Sifaki , Stamatios Papadakis

The mass influx of refugees into Europe since 2013 and their educational challenges have increased the need for high-quality refugee education. One proposal for addressing these challenges was to leverage mobile devices for educational purposes (mobile learning). By surveying the literature, the present paper concludes that mobile learning seems beneficial for refugees in two ways: providing refugees access to education and improving the quality of the provided refugee education. However, it is not a one-solution-fits-all regarding their education.

refugees, refugee education, mobile learning, mobile applications

1. Introduction

In recent years, the mass influx of refugees has exceeded the number of refugees from the Second World War^[1]. In 2019, it was estimated that worldwide, a person had to flee his or her country roughly every two seconds^[2]. The unprecedented number of refugees (over 100 million people) during the second decade of the 21st century (2010–2019) made many researchers talk about a “global refugee crisis”^{[3][4][5]}. Children and teenage refugees have constituted a significant portion of the refugee population. In 2018, the United Nations High Commissioner for Refugees (UNHCR) reported that approximately half of the 25.4 million refugees were under the age of 18^[2], while in 2019, the number of refugee children reached 30 to 34 million^[5].

The crucial role of refugee education has been recognized by governments and organizations worldwide^{[6][7]}. However, 13 million youths have been reported as being behind in school^[4]. According to the UNHCR, in 2019, only 63% of refugee children worldwide had access to primary education, 24% to secondary education, and only 3% succeeded in obtaining a higher education degree^[8]. On average, each refugee has spent approximately 17–20 years in exile^{[9][10]}. With that in mind, United Nations Children’s Fund (UNICEF) has warned that the risk of a “lost generation” of refugee children will be increased if educational opportunities are not provided rapidly^{[4][11][12][13]}. Many countries have adopted an educational plan for refugees within their integration policy. However, education remains a challenging task for refugees for several reasons/factors—even with such policies being implemented.

In 2016, the European Commission proposed the use of technological breakthroughs (e.g., the Internet and smart mobile devices) together with the use of interactive learning through them, as a way of addressing the requirements for education and the faster integration of refugees^{[14][15]}. Although many NGOs, European and UN agencies have invested in mobile devices to provide access and enhance refugees’ education, there is limited research on the effect of mobile learning on refugees^{[12][16][17]}.

2. Mobile learning and refugees

Due to the widespread use of mobile devices in everyday life and the benefits they offer, many researchers have begun to explore how to use them in other areas, such as the education sector^{[18][19][20]}. Mobile learning, a new research field in education^{[21][22][23]}, began developing gradually in the late 20th century^[24], although a significant increase in the use of mobile devices for educational purposes has been observed since 2008^[25] following the release of the first generation iPhone the same year^[20]. The effectiveness of mobile learning in the educational process has been examined thoroughly, presenting mostly positive results^{[26][27][28][29][30]}. In particular, mobile learning positively affects students’ performance, increasing their motivation and engagement with the subject matter^[31].

As far as refugee populations are concerned, they seem to use mobile devices daily to face everyday difficulties [3][4][32][33]. The research revealed that most refugees own a mobile device, and more than 50% of young refugees use the Internet daily [34][35]. Refugees seem to relate their mobile devices and Internet connectivity to the basic needs for their survival [35][36]. Given the high rates of mobile devices' availability among refugees and the advantages of mobile learning, research seems to support the use of mobile learning in order to enable and enhance education for refugee populations [37][35][38]. According to Lamrani and Abdelwahed [39], mobile learning could contribute to refugee education in expanding refugee access to formal and informal education and improving the quality of the education they receive. According to UNESCO [40], mobile learning could act as a way of averting the rise of a lost generation [6][41][40].

3. Juxtaposing Mobile Learning Applications Characteristics with Refugee Needs

Mobile apps are not panaceas for refugees. The benefits of mobile learning could not have any influence if the applications' design "lacks coordination, is driven by profit and is decontextualized from the learning context" [42] (p.1). Thus, it becomes crucial for mobile learning apps' characteristics to match complex refugee needs, towards a better educational experience. Various characteristics were proposed or applied in the reviewed literature about mobile learning applications for refugee students. For this study's purposes, we collected and attempted to juxtapose some mobile app characteristics with the four (out of five) groups of challenging factors to refugee education: the living conditions and the learning, emotional and socio-cultural needs (Table 2). The fifth group, i.e., the host country's educational system, is omitted because the creation of educational applications for mobile learning aims to provide solutions to the deficiencies of the existing educational system.

Table 2. Characteristics of mobile learning applications proposed in the literature.

Factors Influencing Refugee Learning	Apps' Characteristics
A. Living conditions	Free applications [41][43][44]. No need for Internet connectivity [2][45][46].
B. Learning needs	Scaffolding in the use of the application [47][48]. Scaffolding in the approach of new educational content (step by step) [2]. Explanation of the meaning of scientific terms [49]. Ability to develop metacognitive skills (e.g., auto-correction, self-evaluation of progress) [48].
C. Emotional needs	Possibility of social interactions [47][41][43][50][50].
D. Socio-cultural differences	Multilingual applications [51].

2.1. Living Conditions of Refugee Students

Access by refugee students to a fixed Internet network and paid applications, courses, or materials was considered difficult to achieve depending on their place of residence and their family's financial situation. That is why the creation of free applications [41][43][44] not subjected to Internet connection was recommended [2][45][46].

2.2. Learning the Needs of Refugee Students

Due to the challenges which refugees face in their education, more support (e.g., scaffolding) is suggested in teaching new learning content^[47]. Moreover, refugee students may need more scaffolding to navigate or handle electronic learning resources, since some may lack digital literacy skills. According to Ahad and Benton^[52], mobile learning offers tools for creating personalized learning environments with adequate support for refugee students. Scaffolding appears to reduce the risk of cognitive overload and helps to overcome barriers, such as the differences in refugees' socio-cultural backgrounds and the lack of necessary skills and knowledge^[47]. This view seems consistent with Demmans Epp's research^[48], which highlighted the need to create mobile learning applications that guide refugee or immigrant students to a cognitive and metacognitive level.

4.3. Emotional and Socio-Cultural Needs of Refugee Students

One of the solutions proposed for refugee students, in order for their education's cognitive outcomes to be raised, was the creation of multilingual applications in their native language^[51]. Furthermore, research conducted on mobile-learning disadvantages showed adverse effects of mobile learning when one-on-one teaching methods (i.e., one student per mobile device) were applied, such as loneliness and marginalization^[53]. Other research highlighted the importance of the need for socialization among refugee students—even more than among locals—in order to quickly achieve their integration into the new society^{[54][41][43]}. The above mobile learning's disadvantages, combined with the need of refugee students to socialize with the locals, could be overcome by creating mobile learning applications that enhance the interaction between refugee students with their teacher, classmates, or the local population. Although in most mobile learning applications, refugee students were asked to work and acquire new knowledge individually. Two models have been proposed in the reviewed literature to address the growing need of refugee students for socialization in conjunction with mobile devices' extensive use: (i) the "mixed model" or "blended learning" model, in which the use of mobile learning is combined with the traditional form of teaching^{[47][55][56]}, and (ii) the collaborative learning model in which users have to collaborate within the app^[50].

References

1. Maitland, C.; Xu, Y. A Social Informatics Analysis of Refugee Mobile Phone Use: A Case Study of Zaaatari Syrian Refugee Camp. SSRN Electron. J. 2015.
2. United Nations High Commissioner for Refugees (UNHCR). Connecting Refugees: How Internet and Mobile Connectivity Can Improve Refugee Well-Being and Transform Humanitarian Action. Available online: <https://www.unhcr.org/5770d43c4> (accessed on 6 March 2020).
3. Cardarelli, R. Solving the Education Crisis of Displaced Children: A most important goal for education diplomacy. Child. Educ. 2018, 94, 61–66.
4. United Nations High Commissioner for Refugees (UNHCR). Figures at a Glance. Available online: <https://www.unhcr.org/figures-at-a-glance.html> (accessed on 22 July 2019).
5. Abujarour, S.; Wiesche, M.; Andrade, A.D.; Fedorowicz, J.; Krasnova, H.; Olbrich, S.; Tan, C.-W.; Urquhart, C.; Venkatesh, V. ICT-enabled Refugee Integration: A Research Agenda. Commun. Assoc. Inf. Syst. 2019, 44, 874–891.
6. Fisher, K.E.; Yafi, E. Syrian Youth in Za'atari Refugee Camp as ICT Wayfarers: An Exploratory Study Using LEGO and Storytelling. In Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies, San Jose, CA, USA, 20–22 June 2018; Volume 32, pp. 1–12.
7. United Nations High Commissioner for Refugees (UNHCR). Global Trends: Forced Displacement in 2019. Available online: <https://www.unhcr.org/en-us/statistics/unhcrstats/5ee200e37/unhcr-global-trends-2019.html> (accessed on 27 November 2020).
8. OECD. Immigrant Students at School: Easing the Journey towards Integration; OECD Reviews of Migrant Education; OECD Publishing: Paris, France, 2015.

9. Schneeweis, N. Educational institutions and the integration of migrants. *J. Popul. Econ.* 2011, 24, 1281–1308.
10. United Nations High Commissioner for Refugees (UNHCR). *Stepping Up: Refugee Education in Crisis*. 2019. Available online: <https://www.unhcr.org/steppingup/wp-content/uploads/sites/76/2019/09/Education-Report-2019-Final-web-9.pdf> (accessed on 21 September 2020).
11. Dahya, N.; Dryden-Peterson, S. Tracing pathways to higher education for refugees: The role of virtual support networks and mobile phones for women in refugee camps. *Comp. Educ.* 2017, 53, 284–301.
12. United Nations Educational, Scientific, and Cultural Organization (UNESCO). UNHCR Report. *Missing Out: Refugee Education in Crisis*. Available online: http://uis.unesco.org/sites/default/files/documents/missing-out-refugee-education-in-crisis_unhcr_2016-en.pdf (accessed on 6 March 2020).
13. United Nations Children's Fund (UNICEF). *Education under Fire: How Conflict in the Middle East Is Depriving Children of Their Schooling*. Available online: http://www.unicef.org/mena/media_10557.html (accessed on 6 March 2020).
14. Taftaf, R.; Williams, C. Supporting Refugee Distance Education: A Review of the Literature. *Am. J. Distance Educ.* 2019, 34, 5–18.
15. United Nations Educational, Scientific, and Cultural Organization (UNESCO). *Global Education Monitoring Report: Education for People and Planet: Creating Sustainable Futures for All*. Available online: <http://unesdoc.unesco.org/images/0024/002457/245752e.pdf> (accessed on 6 March 2020).
16. United Nations Educational, Scientific, and Cultural Organization (UNESCO). *Working Group on Education: Digital Skills for Life and Work*. Available online: <http://unesdoc.unesco.org/images/0025/002590/259013e.pdf> (accessed on 6 March 2020).
17. European Commission. *Lives in Dignity: From Aid-Dependence to Self-Reliance (COM 2016, 234)*. Available online: https://ec.europa.eu/echo/files/policies/refugeesdp/Communication_Forced_Displacement_Development_2016.pdf (accessed on 6 March 2020).
18. Bradley, L.; Bartram, L.; Al-Sabbagh, K.W.; Algers, A. Designing mobile language learning with Arabic speaking migrants. *Interact. Learn. Environ.* 2020, 1–13.
19. Weibert, A.; Krüger, M.; Aal, K.; Salehee, S.S.; Khatib, R.; Randall, D.; Wulf, V. Finding Language Classes. *Proc. ACM Hum. Comput. Interact.* 2019, 3, 1–23.
20. Dorouka, P.; Papadakis, S.; Kalogiannakis, M. Tablets and apps for promoting robotics, mathematics, STEM education and literacy in early childhood education. *Int. J. Mob. Learn. Organ.* 2020, 14, 255–274.
21. Eppard, J.; Nasser, O.; Reddy, P. The Next Generation of Technology: Mobile Apps in the English Language Classroom. *Int. J. Emerg. Technol. Learn.* 2016, 11, 21–27.
22. Keskin, N.O.; Metcalf, D. The current perspectives, theories and practices of mobile learning. *Turk. Online J. Educ. Technol.* 2011, 10, 202–208.
23. Ng, W.; Nicholas, H.; Loke, S.; Torabi, T. Designing Effective Pedagogical Systems for Teaching and Learning with Mobile and Ubiquitous Devices. In *Multiplatform E-Learning Systems and Technologies*; IGI Global: Hershey, PA, USA, 2010; pp. 42–56.
24. Pegrum, M.; Oakley, G.; Faulkner, R. Schools going mobile: A study of the adoption of mobile handheld technologies in Western Australian independent schools. *Australas. J. Educ. Technol.* 2013, 29, 66–81.
25. Sung, Y.-T.; Chang, K.-E.; Liu, T.-C. The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Comput. Educ.* 2016, 94, 252–275.

26. Hwang, G.-J.; Tsai, C.-C. Research trends in mobile and ubiquitous learning: A review of publications in selected journals from 2001 to 2010. *Br. J. Educ. Technol.* 2011, 42, E65–E70.
27. Lamrani, R.; Abdelwahed, E.H. Game-based learning and gamification to improve skills in early years education. *Comput. Sci. Inf. Syst.* 2020, 17, 339–356.
28. Kucirkova, N. Personalised Learning with Digital Technologies at Home and School: Where is Children's Agency? In *Mobile Technologies in Children's Language and Literacy: Innovative Pedagogy in Preschool and Primary Education*; Oakley, G., Ed.; Emerald Publishing Limited: Bingley, UK, 2018; pp. 133–153.
29. Heflin, H.; Shewmaker, J.; Nguyen, J. Impact of mobile technology on student attitudes, engagement, and learning. *Comput. Educ.* 2017, 107, 91–99.
30. Hwang, G.J.; Wu, P.H. Applications, impacts and trends of mobile technology-enhanced learning: A review of 2008-2012 publications in selected SSCI journals. *Int. J. Mob. Learn. Organ.* 2014, 8, 83.
31. Wu, W.-H.; Wu, Y.J.; Chen, C.-Y.; Kao, H.-Y.; Lin, C.-H.; Huang, S.-H. Review of trends from mobile learning studies: A meta-analysis. *Comput. Educ.* 2012, 59, 817–827.
32. Maitland, C.; Xu, Y. A Social Informatics Analysis of Refugee Mobile Phone Use: A Case Study of Zaaatari Syrian Refugee Camp. *SSRN Electron. J.* 2015.
33. United Nations High Commissioner for Refugees (UNHCR). Connecting Refugees: How Internet and Mobile Connectivity Can Improve Refugee Well-Being and Transform Humanitarian Action. Available online: <https://www.unhcr.org/5770d43c4> (accessed on 6 March 2020).
34. Bradley, L.; Bartram, L.; Al-Sabbagh, K.W.; Algers, A. Designing mobile language learning with Arabic speaking migrants. *Interact. Learn. Environ.* 2020, 1–13.
35. Baldi, V.; Ribeiro, A. Conceptualization of a Mobile Application Aimed at Refugees in Portugal. In *Proceedings of the 13th Iberian Conference on Information Systems and Technologies (CISTI)*, Cáceres, Spain, 13–16 June 2018; pp. 1–6.
36. Kaufmann, K. Navigating a new life: Syrian refugees and their smartphones in Vienna. *Inf. Commun. Soc.* 2018, 21, 882–898.
37. Dahya, N.; Dryden-Peterson, S. Tracing pathways to higher education for refugees: The role of virtual support networks and mobile phones for women in refugee camps. *Comp. Educ.* 2017, 53, 284–301.
38. European Commission. Lives in Dignity: From Aid-Dependence to Self-Reliance (COM 2016, 234). Available online: https://ec.europa.eu/echo/files/policies/refugeesdp/Communication_Forced_Displacement_Development_2016.pdf (accessed on 6 March 2020).
39. Kucirkova, N. Personalised Learning with Digital Technologies at Home and School: Where is Children's Agency? In *Mobile Technologies in Children's Language and Literacy: Innovative Pedagogy in Preschool and Primary Education*; Oakley, G., Ed.; Emerald Publishing Limited: Bingley, UK, 2018; pp. 133–153.
40. United Nations Educational, Scientific, and Cultural Organization (UNESCO). Global Education Monitoring Report: Education for People and Planet: Creating Sustainable Futures for All. Available online: <http://unesdoc.unesco.org/images/0024/002457/245752e.pdf> (accessed on 6 March 2020).
41. Taftaf, R.; Williams, C. Supporting Refugee Distance Education: A Review of the Literature. *Am. J. Distance Educ.* 2019, 34, 5–18.
42. Lewis, K.; Thacker, S. ICT and the Education of Refugees: A Stocktaking of Innovative Approaches in the MENA Region. In *World Bank Education, Technology & Innovation; SABER-ICT Technical Paper Series*; The World Bank: Washington, DC, USA, 2016; Volume 17.

43. Duran, C.S. "You not die yet": Karenni refugee children's language socialization in a video gaming community. *Linguist. Educ.* 2017, 42, 1–9.
44. Papadakis, S.; Vaiopoulou, J.; Kalogiannakis, M.; Stamovlasis, D. Developing and Exploring an Evaluation Tool for Educational Apps (ETEA) Targeting Kindergarten Children. *Sustainability* 2020, 12, 4201.
45. Adil, M.N.; Sundararaman, V.; Bend, M. Leveraging Educational Technology. In *Expectations & Aspirations: A New Framework of Education in the Middle East and North Africa*; El-Kogali, S., Kraft, C., Eds.; World Bank Group: Washington, DC, USA, 2019; pp. 193–205.
46. Epp, C.D. Migrants and Mobile Technology Use: Gaps in the Support Provided by Current Tools. *J. Interact. Media Educ.* 2017, 2017, 1.
47. Castaño-Muñoz, J.; Colucci, E.; Smidt, H. Free Digital Learning for Inclusion of Migrants and Refugees in Europe: A Qualitative Analysis of Three Types of Learning Purposes. *Int. Rev. Res. Open Distrib. Learn.* 2018, 19, 1–21.
48. Lifanova, A.; Ngan, H.; Okunewitsch, A.; Rahman, S.; Guzmán, S.; Desai, N.; Özsari, M.; Rosemeyer, J.; Karayel, M. New locals: Overcoming integration barriers with mobile informal and gamified learning. In *Proceedings of the International Conference on Information Communication Technologies in Education (ICICTE)*, Rhodes, Greece, 7–9 July 2016; pp. 132–141.
49. Miller, J. Teaching Refugee Learners with Interrupted Education in Science: Vocabulary, literacy and pedagogy. *Int. J. Sci. Educ.* 2009, 31, 571–592.
50. Dunleavy, M.; DeDe, C.; Mitchell, R. Affordances and Limitations of Immersive Participatory Augmented Reality Simulations for Teaching and Learning. *J. Sci. Educ. Technol.* 2009, 18, 7–22.
51. Ndijuye, L.G.; Rawat, P.S. Early reading and mathematics attainments of children of self-settled recently naturalized refugees in Tanzania. *Int. J. Educ. Dev.* 2019, 65, 183–193.
52. Papadakis, S.; Kalogiannakis, M. A research synthesis of the real value of self-proclaimed mobile educational applications for young children. In *Mobile Learning Applications in Early Childhood Education*; IGI Global: Hershey, PA, USA, 2019; pp. 1–19.
53. Hwang, G.J.; Wu, P.H. Applications, impacts and trends of mobile technology-enhanced learning: A review of 2008-2012 publications in selected SSCI journals. *Int. J. Mob. Learn. Organ.* 2014, 8, 83.
54. United Nations Educational, Scientific, and Cultural Organization (UNESCO). Digital Library. Protecting the Right to Education for Refugees. Available online: <https://unesdoc.unesco.org/ark:/48223/pf0000251076> (accessed on 6 March 2020).
55. West, M.; Vosloo, S. Policy Guidelines for Mobile Learning; Kraut, R., Ed.; UNESCO Publishing: Paris, France, 2013; pp. 1–41.
56. Lehner, F.; Nosekabel, H. The Role of Mobile Devices in e-Learning—First Experiences with a Wireless e-Learning Environment. In *Proceedings of the IEEE International Workshop on Wireless and Mobile Technologies in Education (WMTE)*, Tokushima, Japan, 30 August 2002; pp. 103–106.
57. West, M.; Vosloo, S. Policy Guidelines for Mobile Learning; Kraut, R., Ed.; UNESCO Publishing: Paris, France, 2013; pp. 1–41.
58. Lehner, F.; Nosekabel, H. The Role of Mobile Devices in e-Learning—First Experiences with a Wireless e-Learning Environment. In *Proceedings of the IEEE International Workshop on Wireless and Mobile Technologies in Education (WMTE)*, Tokushima, Japan, 30 August 2002; pp. 103–106.

Retrieved from <https://encyclopedia.pub/entry/history/show/14442>