

## **Integration Through Education: Using ICT in Education to Promote the Social Inclusion of Refugees in Germany**

Safa'a AbuJarour

**Recommended Citation:** AbuJarour, S. (2022). Integration Through Education: Using ICT in Education to Promote the Social Inclusion of Refugees in Germany. *Journal of Information Systems Education*, 33(1), 51-60.

**Article Link:** <https://jise.org/Volume33/n1/JISE2022v33n1pp51-60.html>

Initial Submission: 19 December 2020  
Accepted: 5 May 2021  
Published: 15 March 2022

Full terms and conditions of access and use, archived papers, submission instructions, a search tool, and much more can be found on the JISE website: <https://jise.org>

ISSN: 2574-3872 (Online) 1055-3096 (Print)

---

# **Integration Through Education: Using ICT in Education to Promote the Social Inclusion of Refugees in Germany**

**Safa'a AbuJarour**

Department of Management Information Systems

An-Najah National University

Nablus, Palestine

[safaa.abujarour@najah.edu](mailto:safaa.abujarour@najah.edu)

## **ABSTRACT**

Social inclusion of refugees through Information and Communication Technologies (ICTs) has been gaining attention by researchers in the field of Information Systems. On a similar context, recent research has identified education among the main dimensions of integration and social inclusion of refugees. This study aims to uncover some of the benefits of ICT solutions related to education and digital learning in the context of the social inclusion of refugees. We study aspects of education, e-learning, and language learning by Syrian refugees in Germany as essential drivers of refugee integration and social inclusion into the host society. To fulfill our goal, we applied the qualitative research method and conducted 36 face-to-face interviews with Syrian refugees in Germany, with the main focus being on their use of educational and e-learning opportunities and how these services contribute to their social inclusion into the community. Our findings show a clear potential for education and e-learning as a means of social inclusion for Syrian refugees in Germany. The analysis of our findings is centered around the following dimensions: opportunities, challenges and obstacles, means, and learning formats. The benefits and opportunities of learning enable refugees to overcome some of the challenges and fulfill their needs towards the ultimate goal of being integrated and socially included in the host society. This study contributes to the field of Information Systems, in particular, how research findings can inform professional practices and policymakers on how to improve and develop our societies.

**Keywords:** Education, e-Learning, Social inclusion, Refugee, Information & communication technologies (ICT), Technologies

## **1. INTRODUCTION**

According to UNHCR (2017), 65.6 million people were forcibly displaced from their homes due to conflicts and persecution by the end of 2016, among which 51% were children below the age of 18. On average, 20 people were forced to flee each minute due to wars, continuing violence, military conflicts, and sweeping poverty. The highest number of displaced people was hosted by developing regions, forming 84% of the total number (UNHCR, 2017). However, due to the high number of refugees and the limited resources in these developing regions, an increasing number of refugees have been moving to Europe seeking asylum. According to Eurostat (2016), 1.20 million asylum applications were submitted to the EU-28. With Germany being the country with the highest number of asylum seekers in Europe (BAMF, 2015; BBC, 2016), it is the focus of our study. Germany was the world's largest recipient of new individual asylum applications, with 722,000 only in 2016 (35% of the EU-28 total), from which 35,900 applications were submitted for unaccompanied or separated children (Eurostat, 2016).

The increasing number of newcomers to Europe, particularly Germany, has raised the challenge of social inclusion. The UN Refugee Agency announced that one solution of population equality is the local integration of refugees (UNHCR, 2019b), which should begin directly upon

the arrival of refugees in the host country to ensure an inclusive and equitable society (Eurostat, 2018). Social inclusion is defined by Wilson and Secker (2015) as "having the opportunities and resources to participate fully in economic, social and cultural life." In the context of refugees, the notion of social inclusion "encompasses the goal of granting opportunities for people to settle in, integrate and participate in the new environment" (AbuJarour & Krasnova, 2017). As the current refugee crisis differs from any past crisis by the unprecedented reliance of refugees on Information and Communication Technology (ICT) (AbuJarour et al., 2016; Mason & Buchmann, 2017), it does not come as a surprise that ICT plays a crucial role in this crisis. Researchers have shown that refugees typically use ICT, in particular, smartphones and social media, during their journey to host countries, as well as after their arrival for integration and social inclusion purposes (Diaz Andrade & Doolin, 2016; Fitch, 2016; Mason & Buchmann, 2017; Ramadan, 2017).

Social inclusion of refugees through technology has been gaining attention by researchers in the IS field, where recent research has identified education, together with learning local languages, social networking, and employment as the main three dimensions of social inclusion (AbuJarour & Krasnova, 2017). Previous research has revealed that education and language enable social inclusion (Stanley et al., 2011). In the case of refugees, a good command of the local language is

essential to a successful social inclusion process, which encourages enabling the refugees to attend language courses upon their arrival (Ager & Strang, 2008; Yu et al., 2007).

Refugees have to start a new journey in the host country by visiting several governmental offices to submit their asylum applications and clarify other formalities, including getting a residence permit, health insurance, accommodation, etc. This requires refugees to communicate with different groups, including local authorities, governmental offices, locals, and volunteers. Nevertheless, asylum seekers are typically not qualified to participate in education programs (including learning the language) until their lengthy asylum application processes have been completed (AbuJarour & Krasnova, 2017). Moreover, official statistics have shown that more than 83% of asylum seekers in Europe in 2015 were younger than 35 years old (Eurostat, 2016). This clearly indicates the importance of education for this young population group. This includes the need to learn the local language, participate in educational programs, and take part in professional training (AbuJarour & Krasnova, 2017). Here, ICT emerges as a means to alleviate this challenge, with open online courses as a key tool. Online courses have been growing in popularity and are attracting the attention of millions of online learners worldwide by providing easy and ready access to education (McAuley et al., 2010).

Adapting to new environments is typically challenging and takes time, especially where cultural, language, and social differences are significant. Refugees are typically faced with this challenge exacerbated by the aforementioned factors. Prior research revealed that using ICT solutions, through which refugees can maintain social bonds with family members in the country of origin, can be vital in such cases. For instance, Brandtzæg (2012) concluded that the Internet “offers free and easy communication with family, friends and acquaintances regardless of time and place.” In particular, social network usage among refugees enhances communication with family and friends who are in the country of origin or in other regions of the world (Ogan & Ozakca, 2009). Moreover, refugees typically use ICT for other purposes towards making their lives easier in their new environments. For instance, learning the language, translating, finding job opportunities, and communicating with local authorities, volunteers, and locals (AbuJarour & Krasnova, 2017; Diaz Andrade & Doolin, 2016). Additionally, social media sites empower refugees with a voice as they create a space for them “to speak” about their experiences and allow them to present themselves to their community, friends, and the host country, thereby enhancing their feeling of inclusion (Gifford & Wilding, 2013; Nunn, 2010).

Prior research revealed key dimensions of refugees’ social inclusion through ICT with education is one prominent example. One way to achieve an inclusive society is equal access to quality education, educational achievements, and language learning enables social inclusion and improves well-being (Stanley et al., 2011), which in turn leads to an inclusive society (Berman & Phillips, 2000; Council of Europe, 2001; Farrington & Farrington, 2005). Research has shown that active participation in education and language learning is essential to refugees’ successful integration (Ives, 2007).

Despite this, researchers in the IS community have observed that existing research offers limited insights into the process by which ICT may contribute to greater use of e-learning opportunities in the context of refugees (AbuJarour &

Krasnova, 2017; Diaz Andrade & Doolin, 2016). Moreover, existing research hardly offers a wide-ranging study on the role of innovative ICT-enabled services in social inclusion (Choudrie et al., 2017). To contribute to filling this gap and understand how ICT can promote the social inclusion of refugees in host countries, we use qualitative research by conducting face-to-face interviews with refugees in Berlin-Germany to investigate their use of ICT for e-learning purposes. We report on our findings and related discussion issues in this paper.

The aim of our study is to investigate the diversity and inclusiveness of higher education towards leaving no one in the society behind, especially vulnerable groups. Against this backdrop, we tackle the following research questions in our paper:

- *How could education lead to social inclusion of refugees, and what are the opportunities that education offers to refugees?*
- *What are the challenges refugees counter by participating in higher education? How could ICT help overcome these challenges?*

This paper contributes to the body of research in the fields of education and e-learning, ICT usage, and social inclusion by introducing valuable insights achieved from a qualitative research approach. These insights should be considered for contextualizing existing theories on relevant topics. On the other hand, this paper offers practical contributions to the community as it provides contemporary perspectives on developments that benefit policy and practice. It has benefits for stakeholders relevant to the education of refugee topics, including governments and policymakers, educational systems and institutions, and the refugees themselves.

This article is structured as follows. First, we summarize related work in Section 2. In Section 3, we explain our methodology and introduce our sampling for the study. Then, we introduce our findings in Section 4. In Section 5, we discuss the results of our research. We conclude our presented research and discuss practical implications in Section 6.

## **2. RELATED WORK**

### **2.1 Integration and Social Inclusion of Refugees Through Education**

In host countries, refugees start their new lives and start integrating into the new society, which is a complex and gradual process (UNHCR, 2019b). Since its evolution, social inclusion research has come to be seen as “the effort to develop a greater understanding about aspects of human diversity as they relate to underrepresented and underserved groups in relation to the development, deployment, management, use, and impact of information systems and technologies” (Trauth, 2017). Social inclusion has been of immense interest to technology experts, activists, and policymakers due to the rapidly and largely unexpectedly emerging ICT’s innovations affecting people’s positioning in the society (Choudrie et al., 2017). Wilson and Secker (2015) define social inclusion as “having the opportunities and resources to participate fully in economic, social, and cultural life.” With the emergence of ICT, it is suggested that it helps community members to be socially included and remaining active within their communities by “supporting participation in everyday activities and help people conduct a life they value by attaining the necessary functioning”

(Zamani, 2017). Qureshi (2019) reveals that the implementation, use, or diffusion of ICTs leads to improvements in the lives of people through economic, social and human conditions of a group of people, community, or region (Qureshi, 2019), which in turn leads to achieving a socially included society.

It is suggested that an inclusive society can be achieved through equal access to quality education, educational achievements, and life-long learning (Berman & Phillips, 2000; Council of Europe, 2001; Farrington & Farrington, 2005). Even more, UNESCO (2005) recognizes education as a basic human right, through which inclusion is achieved by providing “access to free and compulsory education; equality, inclusion and non-discrimination; the right to quality education, content and processes.” Therefore, education and language learning are among the main dimensions of social inclusion, which include individual literacy and numeracy as well as language and dialect skills (Australian Social Inclusion Board, 2012; Chan et al., 2014).

In the context of refugees, research revealed that access to education and learning the local language are among the highest priority aspects for refugee integration (Da Costa, 2006; Eurostat, 2018). However, only 3% of refugees enroll in college or university in comparison to the worldwide enrollment rate of 37% (UNHCR, 2019). Due to the importance of speaking the local language, refugees are often required to attend language courses upon their arrival (Ager & Strang, 2008; Yu et al., 2007). In Germany, refugees are required by German authorities to take part in integration courses, which include two types of courses: orientation and language learning. The orientation course is aimed at giving participants insights into Germany’s culture, history, legal system, and values and requires participants to succeed at an exam titled “Life in Germany” (Jones, 2018). The language course is aimed at teaching participants a beginner to intermediate level of German. Both courses are funded by Germany’s Federal Office for Migration and Refugees (BAMF). Reports show that these courses have not been quite successful in recent years, with a 40% and 45% failure rate in 2017 and 2018 respectively, which led to some criticism from the BAMF office for the quality of the courses, with inspections stepped up (Goebel, 2019).

Eurostat (2018) indicates that “mastering the host country language is the single most important skill refugees need for integrating into the host country.” Additionally, researchers have shown that education and language enable social inclusion and improve well-being (Stanley et al., 2011). Learning the language is not only crucial for daily interactions with the host society, but it is also a requirement for almost all integration activities. For instance, finding a suitable job requires generally mastering the local language. Also, getting a university admission requires passing the DSH (German higher education entrance examination) exam. Furthermore, mastering a particular level of language proficiency is an official requirement to obtain a permanent residence permit.

## **2.2 Refugee’s Access to Education Through ICT**

Notably, the current refugee population is the “most tech-savvy population of migrants in history” compared to previous refugee populations, with smartphone penetration rates of up to 90% (Maitland & Xu, 2015; Rutkin, 2016). With ICT, in particular, smartphone, emerging as an important piece of technology for refugees in all stages of their fleeing journey,

starting by preparing for their journey, then during the dangerous fleeing journey, and finally after arriving in host countries and in the process of building a new life abroad (AbuJarour & Krasnova, 2017; Fitch, 2016). Capabilities related to ICT use, including access, knowledge, skills, support, and literacies, can ease participation in the modern information society (Mansell, 2002; Notley, 2009). For refugees, ICT plays a role in promoting social inclusion and enhancing their agency because it allows refugees to participate in society and regain control over their lives (Diaz Andrade & Doolin, 2016).

Education and language skills are essential for successful integration and social inclusion in the host country (Ives, 2007; Stanley et al., 2011). Syrian refugees in Germany have realized the importance of learning the German language for their social inclusion upon their arrival. Therefore, most of them have immediately started learning German through ICT due to the limited capacity of language schools or legal restrictions. Aligned with the fact that ICT can change nature and raise the quality of teaching and learning (Reynolds et al., 2003), refugees already learn German using ICT, mainly via their smartphones (AbuJarour et al., 2016).

An open education approach here seems relevant because online modes of pedagogy are scalable and can empower learners with control over where, what, how, and with whom to study (Kop & Fournier 2010). Research has revealed several reasons why open education can work better for refugees. These include (1) not being affected or distracted by other group members, (2) the ability to repeat online lessons or certain parts as many times as needed to grasp the knowledge, (3) having the flexibility to plan learning according to their schedules and family situations, especially as refugees frequently have official appointments that cannot be postponed, and (4) the mobility of open education, as it can be pursued anytime and anywhere (AbuJarour & Krasnova, 2017).

Because the majority of asylum seekers in Europe are younger than 35 years (Eurostat, 2016), it is highly desirable to provide orientation and tools to enable this young and motivated group to join university programs and acquire additional educational knowledge. This can be handled, to a large extent, with the help of social media channels and online sites (AbuJarour & Krasnova, 2017). In Berlin, there are many examples of universities and educational institutions that offer special courses for refugees to get them engaged in the educational system and prepare them to enter traditional educational programs at later stages. Because refugees spend most of their time at language schools, which are obligatory after getting the residence permit, it is sometimes difficult to join these educational programs. Here comes the necessity of e-learning and open education opportunities. For instance, Kiron Open Higher Education is an educational institution in Berlin that enables access to higher education and successful learning for refugees through digital solutions (<https://kiron.ngo/>). Kiron university facilitates flexible access to higher education from anywhere. As of October 2020, it has more than 10,000 students from more than 45 countries of origin and 145 partner universities.

In the context of refugees, they prefer video and audio recordings to consume e-learning material through ICT tools, such as smartphones (Schrieck et al. 2017). For instance, Syrian refugees in Germany prefer to learn the German language through videos on YouTube introduced by other Syrian refugees who learned the German language and now can

teach it to others in an easy way in their mother language, Arabic (AbuJarour & Krasnova, 2017). One example of these YouTube channels belongs to the Syrian refugee “Deiaa Abdullah” ([www.youtube.com/c/DeiaaAbdullah](http://www.youtube.com/c/DeiaaAbdullah)), who has 154,000 subscriptions and has a particularly popular playlist: “German minutes with Deiaa,” that reached millions of viewers. Another popular example is Syrian refugee Khaled Bozan, who has a channel on YouTube with 300,000 subscribers and more than 78 million viewers, aiming at teaching the German language and also educating refugees about the life and regulations in Germany ([www.youtube.com/user/SyrerInDeutschland/](http://www.youtube.com/user/SyrerInDeutschland/)).

### **3. METHODOLOGY AND SAMPLING**

Our study targeted Syrian refugees in Germany due to the following reasons. First, we would like to ensure homogeneity in our sample with respect to culture, background, and asylum-seeking journey. Second, Syrian refugees comprise the majority of the refugee population worldwide (UNHCR, 2019). Third, most Syrian refugees in Europe are located in Germany, with more than 1.5 million asylum seekers since 2015 (BAMF, 2018).

#### **3.1 Methodology**

We conducted three interview rounds over three years, namely, 2016 (with 15 participants), 2017 (with 13 participants), and 2018 (with 8 participants) (AbuJarour, 2020; AbuJarour & Krasnova, 2018). The reason for conducting the interviews over three years is to ensure the inclusiveness of our participants with respect to the time spent in Germany. We were able to include refugees who have just arrived in Germany to refugees who have been living in Germany for longer periods. All interviews were recruited and conducted personally by the author who has a direct access to refugee networks and communities. The author initially conducted all interviews in the participants’ native language, Arabic. All interviews were audio-recorded. All interviewees were conducted following a semi-structured approach. We asked respondents questions related to the usage of ICT, consumption of e-learning opportunities, participation in educational programs, challenges of engaging in educational programs or language training, and social inclusion and integration achievements. For instance, respondents were asked whether they use ICT for e-learning, whether they visit language schools, and whether they are aware of open education opportunities that are available to them. In the next step, the interviews were transcribed and then carefully translated into English.

#### **3.2 Data Analysis**

In analyzing our interviews, we followed the “Straussian” line of Grounded Theory (Strauss & Corbin, 1990) for the coding process. This method allows for incorporating prior knowledge of the phenomenon in question into the analysis (Matavire & Brown, 2013; Seidel & Recker, 2009; Strauss & Corbin, 1990). Data was organized and coded using the constant comparison method (Strauss & Corbin, 1990).

In their approach, Strauss and Corbin (1990) differentiate between three major types of coding: open coding, axial coding, and selective coding. We used an iterative process throughout the three interview rounds. We started with open coding, in which we were naming and categorizing of phenomena through

a careful read through the full transcripts and then created a preliminary codebook. Initial concepts were identified by looking for patterns in the data through the process of constant comparison (Strauss & Corbin, 1990). In the next step, the concepts identified during open coding were grouped under higher-order, more abstract concepts, called categories. The concepts identified were combined into higher-level categories.

In eliciting the codes and merging them into superior categories, we specifically looked for themes reflecting the use of ICTs for educational purposes by our respondents and how these uses contributed to their perceptions of social inclusion. A complementary process of selective coding helped us discover patterns across themes as they relate to each other. These themes were used to guide our decisions on the formulation of codes and analysis of the emerging patterns. We further linked the major categories to develop a coherent perspective on our data. Following the constant comparison principle (Urquhart et al., 2010), we returned to the data whenever a relationship emerged in the selective coding to verify its grounding in the data.

#### **3.3 Sampling**

Our qualitative study is based on a sample of 36 participants from the area of Berlin and Brandenburg in Germany, whom we interviewed face-to-face for 60 minutes on average. The average age of the refugees we interviewed was 31 years old, with 21 male and 15 female participants. Interestingly, all our participants had family members back in Syria at the time of our study. A detailed overview of the demographics of our conducted interviews is presented in Table 1.

## **4. FINDINGS**

In this section, we report on our findings, including analysis and quotes from our interviews. We introduce our findings along the following dimensions: opportunities (education, e-learning, and language learning), challenges and obstacles, means (ICT and smartphone), and learning formats (e-learning and open education, in-person education and learning, and mixed-method-learning) that enable the refugees to overcome the challenges and fulfill their needs towards the ultimate goal of being integrated and socially included in the host society.

Our analysis shows that refugees believe that learning the German language is valuable and necessary for their new lives in the host countries and that they spend significant time using e-learning offers to learn the German language. For instance, one of our interviewees indicated that even though he is still not obligated to visit the language school, he does it regardless because he finds it necessary:

*“For three months, I have been visiting a language school voluntarily for three hours a day.”*

Our interviews also reveal the importance of using e-learning to learn the language, despite visiting language schools:

*“Open education helps me a lot. Whatever I don’t understand in class, I check using an app I have on my smartphone. I can’t catch everything the teacher tells us [in class], because he is German.”*

Average duration		60 minutes
Gender		
	Male	21
	Female	15
Current residency		
	Apartment	20
	Shared Residence/WG	4
	Shelter/Camp	6
	Temporary residence	6
Education		
	High school or less	14
	Some college	5
	Vocational training	3
	University	13
	Master or above	1
Age group		
	18-24	8
	25-30	11
	31-39	13
	Above 40	4
Arrived in Germany		
	Less than 12 months	17
	12-24 months	2
	2-3 years	13
	4 years or longer	14
Prior working experience		
	Yes	32
	No	4
Acquired residency		
	Yes	21
	Not yet	15

**Table 1. Demographics of Interviews with Refugees - Years 2016, 2017, 2018 (n=36)**

**4.1 Opportunities: Higher Education, E-Learning, and Language Learning**

Our interviews reveal that refugees participate in educational programs and language learning processes to achieve two goals: social inclusion and self-development.

Being integrated into the German society means for many refugees being able to find a place in the society, either in a workplace or an educational institution. Nevertheless, many refugees do not possess the required skillset, which represents another barrier to their integration process. This situation revealed a critical need for many refugees to self-develop and engage in educational programs and learn the German language. For instance, refugees who cannot visit traditional education opportunities can use ICT to utilize e-learning as a capability to achieve self-development and self-learning towards being socially included and integrated. Although refugees have several needs towards their goal of social inclusion, the participants highlighted three essential needs: education, e-learning, and language learning.

Refugees need to be aware of available educational offers and programs at German universities to harvest them. ICT plays a crucial role here by informing them, in an easy and convenient way, about the available educational programs and how to participate in such programs:

*“[...] the most important thing is deciding to join a Master’s program at Berlin University of Technology using my smartphone. I visited their website and I found a special program for refugees [...].”*

The German educational system represents a challenge for refugees whose goal is to obtain a university degree. For instance, it is a requirement to pass the German test DSH (German higher education entrance examination) to qualify for university admission. Here, ICT appears as an essential medium to approach this challenge. For instance, one of our participants stated:

*“[...] During preparations for the DSH exam, I found a YouTube channel for a German teacher who gives instructions about the exam.”*

Not only do university regulations represent a challenge, but the content itself also represents another challenge. One of our participants explained how they tackle this challenge with ICT capabilities:

*“During university times, I watch [online] videos related to the subject I study.”*

It is evident that refugees have discovered the wealth of e-learning resources to fulfill their need to acquire new knowledge and develop themselves. The wide range of available e-learning resources makes e-learning popular among refugees as they can use it for specific temporary needs, e.g., DSH test, as well as learning general topics, e.g., university courses. One of our participants summed it up concisely:

*“I signed up for an online course offered by Cisco on Cyber Security. They also provided a website to share the lectures online.”*

One of our participants explained this aspect precisely:

*“When I was studying B1 (intermediate) level of German, I had to study it alone at home. I was using apps including Google Translate, arabdict, and Deutsch Sprache DS. This latter app was created by a Syrian person. It has about 30 topics and 30 conversations, and all the grammar for my level. It helped me a lot.”*

**4.2 Challenges and Obstacles**

Many of our interviewees expressed their willingness to use ICT-enabled solutions to participate in education, access e-learning offers, or learn the German language. Yet, several obstacles hinder this:

(1) The lack of adequate technical infrastructure, including Internet connection and sufficient data volumes:

*“I could not start learning German using my Smartphone because we don’t have Wi-Fi at home.” Or “In order to use open education, I need an open Wi-Fi because 5 Gigabytes is not enough to watch enough videos to learn properly.”*

The importance of having Wi-Fi is even greater and more sensitive when living in refugee shelters or shared residence. For instance, when having Internet connection available in big halls or shared rooms, then the learning process is even harder

*“It is necessary for me, in order to start using e-learning, to have an internet connection in my room in the shelter so that I don’t have to leave my children without supervision.”*

(2) The lack of information about available offers for language courses or educational programs:

*"We installed apps to learn the German language because this was the best and fastest way to learn German, as we did not know anything and no one guided us or informed us about available courses or the procedure."*

(3) Legal regulations: Our interviewees indicate that one of the reasons of not starting to learn the language at language schools is the regulations that prevent refugees from joining language schools before completing the asylum processes. This is one of the reasons to consider e-learning offers:

*"I started learning German on my own to adapt to the new place using open education through the Internet, because I have not received my residence permit yet and therefore officially, I'm not allowed to join a language school."*

Several refugees prefer starting to learn the German language immediately upon their arrival, because of its crucial role in their social inclusion process:

*"I think that the government should have given us the chance to go to a language school to learn the German language upon our arrival."*

#### 4.3 Means: ICT and Smartphone

Our study shows an explicit reliance from refugees on mobile apps to fulfill their needs to participate in educational programs and learning offers, towards their ultimate goal of social inclusion. For instance, 75% of our sample use smartphones as a single medium for education and e-learning purposes. The other 25% use their laptops for specific educational purposes in addition to their smartphones. One participant explained this aspect, stating:

*"When I have something to study or when following online courses, I usually use my laptop."*

Investigating the preferred ICT medium for refugees shows that YouTube comes first. 87.5% of our sample stated that they use YouTube to learn German. One participant explained the benefit of YouTube above classical methods, e.g., books, saying:

*"I prefer using YouTube because videos leave more impact on memory than reading."*

The YouTube app for smartphones seems to have features that match the needs of refugees in the context of e-learning:

*"[On YouTube] there are many Arab people that teach German in Arabic, and mostly they explain grammar from the very beginning to the advanced stages, and also teach us about exams' types. For instance, Deiaa Abdullah and Khaled Bozan [on YouTube]."*

Specific features for using YouTube for learning offers include liveliness where YouTube videos on a particular topic provide the audience with lively explanations in contrast to books and other printed material. This is related to the social nature of the learners. Other specific features for using YouTube include:

- **Wide range of content:** The content available on YouTube is rich and covers a wide spectrum of topics, ranging from general topics, e.g., German Grammar, to specific ones, e.g., conversation while visiting a doctor. An important aspect here is the content provided by teachers speaking the same language as the learners, e.g., Arabic in the case of Syrian refugees. This makes it easier for learners to grasp the topic, especially when the teacher relates the new topic to their mother language.

- **Flexibility:** YouTube allows learners to learn whenever and wherever they want. Learners can pause-and-play, rewind, and repeat the videos as they need.
- **Open and easy access:** YouTube is free, and many users had it already installed on their smartphones. This implies that users do not need specialized training to use the app.

When it comes to translation, Google Translate for smartphones is mentioned by all of our interviewees. Our participants use Google Translate in their communication with Germans and to translate the many official letters during their communication with governmental offices. One participant explained their use of the Google Translate mobile app saying:

*"Google Translate became a part of my daily life; it has become a daily necessity [...] especially in communication with my German friends [...]. I translate the official letters and the letters of the Job center. It is used in all aspects of my life."*

ICTs can also be used indirectly to help refugees learn the German language. For instance, refugees use Facebook to find information about relevant offline events, such as language cafes. One participant described this concrete use saying:

*"[I] posted on Facebook that I'm looking for places to learn the [German] language and some people referred us to language cafes."*

There are several ICT channels used by refugees to access e-learning offers. These channels range from YouTube, Facebook, and WhatsApp to specialized apps:

*"... I've created a WhatsApp group with my friends so that we can learn German together."*

Interestingly, the opinions of our interviewees varied between preferring e-learning education only, visiting language schools only, or combining both options for the maximum benefits. For instance, although refugees do visit language schools to learn German, these are not the only source for learning the language, as our interviewees reported:

*"I don't take the lessons in the language school as the single source; but I go to YouTube to watch other teachers' lessons."*

#### 4.4 Learning Formats

**4.4.1 E-Learning and Open Education.** On the one hand, online offers are a vital source of participating in education and learning the language. For instance, these interviewees explained why e-learning is the best option in their cases:

*"I prefer learning the (German) language online using my smartphone. First, because I have a daughter. Second, I can repeat the lesson or certain parts as many times as I need to grasp it."*

In some cases, in-person education is not possible due to personal situations. Here comes the great value of e-learning for refugees to still be able to participate in the educational process:

*"I can't go to the (language) school because of my three sons. I would love to join a school, but I can't."*

Other interviewees reported:

*"It is extremely beneficial for me to learn the German language through my smartphone. I have an app that understands all languages. I set it to German, and use it whenever I have free time or on my way."*

**4.4.2 In-Person Education and Learning.** On the other hand, in-person education is preferred by some refugees as it enables personal interaction, which is also needed for the learning

process. Noted by some of our interviewees, they instead prefer visiting the language schools rather than using e-learning because of the following:

*"I prefer going to the school, because I like the interaction, I can ask directly about anything I don't understand, and there is a sort of commitment to attend the classes." And: "Learning (the language) at the language school is better because there is interaction between the participants."*

An interesting observation is that the level of commitment of learning the language differs between online learning and in-person learning. One of our interviewees stated that they are more committed when they must go to language school:

*"I prefer having the lessons at school daily. When I go to school, I am committed to specific learning hours. In contrast, learning on the mobile does not have this commitment. Open education is important, but is not a replacement for (traditional) schools."*

**4.4.3 Mixed-Method-Learning.** Another important aspect is combining both online and in-person learning. For instance, some interviewees prefer a combination of both e-learning opportunities and personally visiting language schools to learn the language in person:

*"In addition to the language school, I am learning German using YouTube and through Facebook groups. They post German classes and I download and watch them."*

Other interviewees noted:

*"At the (language) school, we have not started learning the language from scratch. In contrast, on the smartphone, we can start from scratch. Besides, we learn new terms that we didn't learn at school."*

## 5. DISCUSSION

It is important to understand that refugees are different from traditional migrants. Their reliance on technology, their dangerous and long journeys, and being forced to move and integrate in the host country are all specialties of the current wave of refugees. Moreover, many refugees were still traumatized by their experiences in fleeing the home country; others lacked the necessary "learning culture" and maybe never attended school in their native countries (Jones, 2018). Ignoring these specialties in the integration process might lead to a complex and exhausting integration process of refugees.

The German educational system is also faced with a shortage of teachers, with Germany reporting a shortfall of 20,000 new teachers relative to demand, which complicates the current efforts (Spiegel Online, 2016). This limitation excludes women with children at home who have less opportunities to learn the German language and integrate in German society. Here, there is a clear potential for e-learning to include this group in offered German classes so that they can also be included in society.

One of the key factors that play a role in the integration process is the integration phase of refugees. For instance, the focus of new refugees is mainly on finalizing the official asylum-seeking process, starting learning the language, and finding accommodation. Whereas in later stages, they need to find a place in the job market or at an educational institution. During the intermediate phases, they need to inform themselves

about the "foreign" local system to plan their path in this new environment. For instance, the German educational system offers various learning opportunities that range from vocational training to university studies. It is crucial for newcomers to understand the differences among these opportunities to select the most suitable one for them based on their skills, experiences, and interests. ICT, and social media networks, in particular, appear to be a suitable medium to distribute this knowledge among refugees, where the information can be provided in their native language and where a certain form of interaction is possible, e.g., to ask concrete questions to clarify a particular aspect.

Several participants criticized the poor quality of several courses offered for them despite the quality checks ran by Germany's Federal Office for Migration and Refugees (BAMF) on nearly 90 percent of course providers in 2018 (Goebel, 2019). Ensuring certain quality standards in the classical learning environments might not be feasible given the high number of course providers. In contrast, ensuring certain quality standards and applying the necessary measures in online platforms are feasible due to ICT capabilities that enable remote verification, control, and correction. This suggests that BAMF should invest more in the direction of e-learning to ensure a certain quality level of the offered courses and to avoid misusing these offers, as has been already revealed that some providers are being sued by the BAMF for fraud and the falsifying of documents (Goebel, 2019).

Our analysis shows some gender sensitivity related to e-learning and self-learning among refugees. The goal of integrating into the community through education and language learning is even more prominent in the case of female refugees because they typically have to take care of their children as Berlin is suffering from a lack of childcare spots. One of our female participants reported:

*"I benefited from studying at home because I have a baby and couldn't get childcare and couldn't find a language course with childcare either. So, I have to stay at home with much free time. [Learning on the Internet] was my only option to utilize time."*

Considering that in Europe, 44% of the refugee population was female in 2018 (UNHCR, 2019b), it is alarming that there are gender differences in male and female participation in educational programs (UNHCR, 2019). This indicates the need to discuss gender differences in education and provide recommendations regarding inequality in educational opportunities, especially that research proved that the Internet could significantly support underprivileged women in education, social inclusion, employment, and financial aspects (Zamani, 2017).

It is an interesting observation that the majority of applications used by refugees are not specifically for refugees. However, the purpose and manner by which the refugees use these apps are different. For instance, the number of installations of the YouTube app for Android devices has exceeded 60 million installations, according to Google Play. Neither Google Play nor the Apple App Store classifies the app as an educational app, yet the majority of our participants confirmed using the app for educational purposes.

It is worth mentioning that adopting e-learning to enable refugees to learn the German language can be viewed as a pilot project towards adopting a similar approach in other contexts in Germany. In particular, due to the repetitive lockdown periods



caused by the COVID-19 pandemic, which led to more reliance on e-learning offers and opportunities.

## 6. CONCLUSION AND IMPLICATIONS

This study contributes to the field of Information Systems, in particular, how research findings can inform professional practices and policymakers on how to improve and develop our societies. Our goal is to uncover some of the benefits of ICT solutions related to education and digital learning in the context of refugees. To fulfill our goal, we studied the aspects of education, e-learning, and language learning by Syrian refugees in Germany as an essential driver of refugee integration and social inclusion into the host society. We conducted 36 face-to-face interviews with Syrian refugees in Berlin, Germany, with the main focus being on their use of educational and e-learning opportunities and how these services contribute to their social inclusion into the community.

Our research showed a clear potential for education and e-learning as means of social inclusion for Syrian refugees in Germany. Many refugees already use e-learning offers to learn the German language through YouTube, Facebook, WhatsApp, and specialized mobile apps. These offers give them advantages, such as more flexibility and freedom during the learning process, over traditional learning offers. Yet, several refugees emphasize the role of traditional education and call for a mixed approach of both digital and physical learning. Furthermore, our research showed that e-learning could be further adopted by more refugees if adequate technical infrastructure, e.g., robust Internet connections, are provided to refugees. Additionally, sufficient advertising is needed in order to inform refugees about available e-learning offers.

Our findings offer both theoretical and practical implications. It contributes to the body of research in the fields of technology usage for education and e-learning and the social inclusion of refugees by introducing valuable insights achieved from a qualitative research approach. On a practical level, our study provides implications for different stakeholders, including governments, industries, educational institutions, NGOs, and the local community. For instance, in the context of refugees and their social inclusion into the host society, our study offers recommendations to governments and policymakers to consider the need of refugees for more interactive solutions to engage in educational programs as part of their social inclusion process. These solutions should include both offline and online solutions. Moreover, the government offices that are in contact with refugees should invest more time and effort in informing refugees about the available learning opportunities.

Moreover, software development industries should consider the unique requirements of refugees when deciding to develop digital educational solutions, e.g., apps and platforms. In a similar context, educational institutions should consider the needs and requirements of refugees, for example, with respect to cultural, psychological, and economic situations. Finally, we emphasize the extra effort required by the NGOs and local community to accept and work together with refugees on helping them to feel socially included in the host society.

## 7. ACKNOWLEDGEMENTS

This work has been started while the author was affiliated with the University of Potsdam in Germany. Thus, the author would like to thank the department of Business Informatics for their support in facilitating the work on this study.

## 8. REFERENCES

- AbuJarour, S. (2020). Social Inclusion of Refugees Through Digital Learning: Means, Needs, and Goals. In *Proceedings of the Pacific Asia Conference on Information Systems* (pp. 20-24), Dubai, UAE.
- AbuJarour, S., & Krasnova, H. (2017). Understanding the Role of ICTs in Promoting Social Inclusion: The Case of Syrian Refugees in Germany. In *Proceedings of the European Conference on Information Systems* (ECIS 2017), Guimarães, Portugal.
- AbuJarour, S., & Krasnova, H. (2018). E-Learning as a Means of Social Inclusion: The Case of Syrian Refugees in Germany. In *Proceedings of the 2018 Americas Conference on Information Systems* (AMCIS 2018).
- AbuJarour, S., Krasnova, H., Wenninger, H., Fedorowicz, J., Tan, C.-W., Urquhart, C., & Venkatesh, V. (2016). Leveraging Technology for Refugee Integration: How Can We Help? Panel Proposal. In *International Conference on Information Systems* (ICIS 2016), Dublin, Ireland.
- Ager, A., & Strang, A. (2008). Understanding Integration: A Conceptual Framework. *Journal of Refugee Studies*, 21(2), 166-191.
- Australian Social Inclusion Board. (2012). *Social Inclusion in Australia: How Australia Is Faring*. Department of the Prime Minister and Cabinet, Canberra, Australia.
- BAMF, Bundesamt für Migration und Flüchtlinge. (2015). Das Bundesamt in Zahlen 2015: Asyl Report. [http://www.bamf.de/SharedDocs/Anlagen/DE/Publikation/en/Broschueren/bundesamt-in-zahlen-2015.pdf?\\_\\_blob=publicationFile](http://www.bamf.de/SharedDocs/Anlagen/DE/Publikation/en/Broschueren/bundesamt-in-zahlen-2015.pdf?__blob=publicationFile).
- BAMF, Bundesamt für Migration und Flüchtlinge. (2018). Das Bundesamt in Zahlen 2018. <https://www.bamf.de/SharedDocs/Anlagen/DE/Statistik/BundesamtInZahlen/bundesamt-in-zahlen-2018.html?view=renderPdfViewer&nn=284738>.
- BBC. (2016). Migrant Crisis: Migration to Europe Explained in Seven Charts. BBC News. <http://www.bbc.com/news/world-europe-34131911>.
- Berman, Y., & Phillips, D. (2000). Indicators of Social Quality and Social Exclusion at National and Community Level. *Social Indicators Research*, 50, 329-350.
- Brandtzæg, P. B. (2012). Social Networking Sites: Their Users and Social Implications—A Longitudinal Study. *Journal of Computer-Mediated Communication*, 17, 467-488.
- Chan, K., Evans, S., Ng, Y.-L., Chiu, M. Y.-L., & Huxley, P. J. (2014). A Concept Mapping Study on Social Inclusion in Hong Kong. *Social Indicators Research*, 119(1), 121-137.
- Choudrie, J., Kurnia, S., & Tsatsou, P. (2017). *Social Inclusion and Usability of ICT-enabled Services*. Routledge.
- Council of Europe. (2001). *Promoting the Policy Debate on Social Cohesion from a Comparative Perspective. Germany*. Trends in Social Cohesion, No. 1.

- Da Costa, R. (2006). *Rights of Refugees in the Context of Integration: Legal Standards and Recommendation*. Legal and Policy Research Series (POLAS/2006/02).
- Diaz Andrade, A., & Doolin, B. (2016). Information and Communication Technology and the Social Inclusion of Refugees. *MIS Quarterly*, 40(2), 405-416.
- Eurostat. (2016). *Asylum Statistics*. [http://ec.europa.eu/eurostat/statistics-explained/index.php/Asylum\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Asylum_statistics).
- Eurostat. (2018). *Expert Group on Refugee and Internally Displaced Persons Statistics*. Publications Office of the European Union, 2018, Luxembourg.
- Farrington, J., & Farrington, C. (2005). Rural Accessibility, Social Inclusion and Social Justice: Towards Conceptualisation. *Journal of Transport Geography*, 13, 1-12.
- Fitch, N. (2016). Smartphone Use on the Refugee Trail. Ars Technica. <http://arstechnica.com/video/2016/04/smartphone-use-on-the-refugee-trail/>.
- Gifford, S., & Wilding, R. (2013). Digital Escapes? ICTs, Settlement and Belonging Among Karen Youth in Melbourne, Australia. *Journal of Refugee Studies*, 26(4): 558-575.
- Goebel, N. (2019). *Migrants Fail German Tests in Increasing Numbers*. <https://www.dw.com/en/migrants-fail-german-tests-in-increasing-numbers/a-48018342>
- Ives, N. (2007). More Than a “Good Back”: Looking for Integration in Refugee Resettlement. *Refuge*, 24(2), 54-63.
- Jones, T. (2018). More Than Half of Migrants Reported to Fail Official German Test. <https://www.dw.com/en/more-than-half-of-migrants-reported-to-fail-official-german-test/a-43582289>
- Kop, R., & Fournier, H. (2010). New Dimensions to Self-Directed Learning in an Open Networked Learning Environment. *International Journal of Self-Directed Learning*, 7(2), 1-20.
- Maitland, C., & Xu, Y. (2015). A Social Informatics Analysis of Refugee Mobile Phone Use: A Case Study of Za’atari Syrian Refugee Camp. In *The 43rd Research Conference on Communication, Information and Internet Policy Paper*. SSRN: 2588300.
- Mansell, R. (2002). Constructing the Knowledge Base for Knowledge-Driven Development. *Journal of Knowledge Management*, 6(4), 317-329.
- Mason, B., & Buchmann, D. (2017). *ICT 4 Refugees*. Published by: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.
- Matavire, R., & Brown, I. (2013). Profiling Grounded Theory Approaches in Information Systems Research. *European Journal of Information Systems*, 22(1), 119-129.
- McAuley, A., Stewart, B., Siemens, G., & Cormier, D. (2010). *The MOOC Model for Digital Practice*. University of Prince Edward Island, Canada.
- Notley, T. (2009). Young People, Online Networks, and Social Inclusion. *Journal of Computer-Mediated Communication*, 14, 1208-1227.
- Nunn, C. (2010). Spaces to Speak: Challenging Representations of Sudanese-Australians. *Journal of Intercultural Studies*, 31(2), 183-198.
- Ogan, C., & Ozakca, M. A. (2009). Bridge Across the Bosphorus Returned Migrants, Their Internet and Media Use and Social Capital. *Social Science Computer Review*, 28, 118-134.
- Qureshi, S. (2019). Perspectives on Development: Why Does Studying Information and Communication Technology for Development (ICT4D) Matter? *Information Technology for Development*, 25(3), 381-389.
- Ramadan, R. (2017). Questioning the Role of Facebook in Maintaining Syrian Social Capital During the Syrian Crisis. *Heliyon*, 3(12), e00483.
- Reynolds, D., Treharne, D., & Tripp, H. (2003). ICT—The Hopes and the Reality. *British Journal of Educational Technology*, 34, 151-167.
- Rutkin, A. (2016). Phoning in Refugee Aid. *New Scientist*, 230(3069), 22-23.
- Schreieck, M., Zitzelsberger, J., Siepe, S., Wiesche, M., & Krcmar, H. (2017). Supporting Refugees in Everyday Life-Intercultural Design Evaluation of an Application for Local Information. In *PACIS 2017 Proceedings*.
- Seidel, S., & Recker, J. (2009). Using Grounded Theory for Studying Business Process Management Phenomena. In *Proceedings of the 17th European Conference on Information Systems* (pp. 1-12). Information Systems and Innovation Group.
- Spiegel Online. (2016). The Integration Puzzle: What a Million Refugees Mean for Everyday Life. SPIEGEL ONLINE. <http://www.spiegel.de/international/germany/22-germans-speak-about-challenges-of-integrating-refugees-a-1075661-11.html>
- Stanley, J. K., Hensher, D. A., Stanley, J. R., & Vella-Brodrick, D. (2011). Mobility, Social Exclusion and Well-being: Exploring the Links. *Transportation Research Part A: Policy and Practice*, 45(8), 789-801.
- Strauss, A., & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Sage Publications.
- Trauth, E. (2017). A Research Agenda for Social Inclusion in Information Systems. *The Data Base for Advances in Information Systems*, 48(2), 9-20.
- UNESCO (2005). *Guidelines for Inclusion: Ensuring Access to Education for All*. Paris, France.
- UNHCR (2017). Global Trends: Forced Displacement in 2016. <http://www.unhcr.org/statistics/unhcrstats/5943e8a34/global-trends-forced-displacement-2016.html>.
- UNHCR (2019). Refugee Statistics. <https://www.unrefugees.org/refugee-facts/statistics/>
- UNHCR (2019b). Global Trends for Forced Displacement in 2018. <https://www.unhcr.org/5d08d7ee7.pdf>
- Urquhart, C., Lehmann, H., & Myers, M. D. (2010). Putting the ‘Theory’ Back Into Grounded Theory: Guidelines for Grounded Theory Studies in Information Systems. *Information Systems Journal*, 20(4), 357-381.
- Wilson, C., & Secker, J. (2015). Validation of the Social Inclusion Scale with Students. *Social Inclusion*, 3(4), 52-62.
- Yu, S., Ouellet, E., & Warmington, A. (2007). Refugee Integration in Canada: A Survey of Empirical Evidence and Existing Services. *Refuge*, 24(2), 17-34.
- Zamani, E. D. (2017). Social Inclusion and ICTs: A Literature Review Through the Lens of the Capability Approach. In: *Innovative ICT-enabled Services and Social Inclusion*, Routledge.

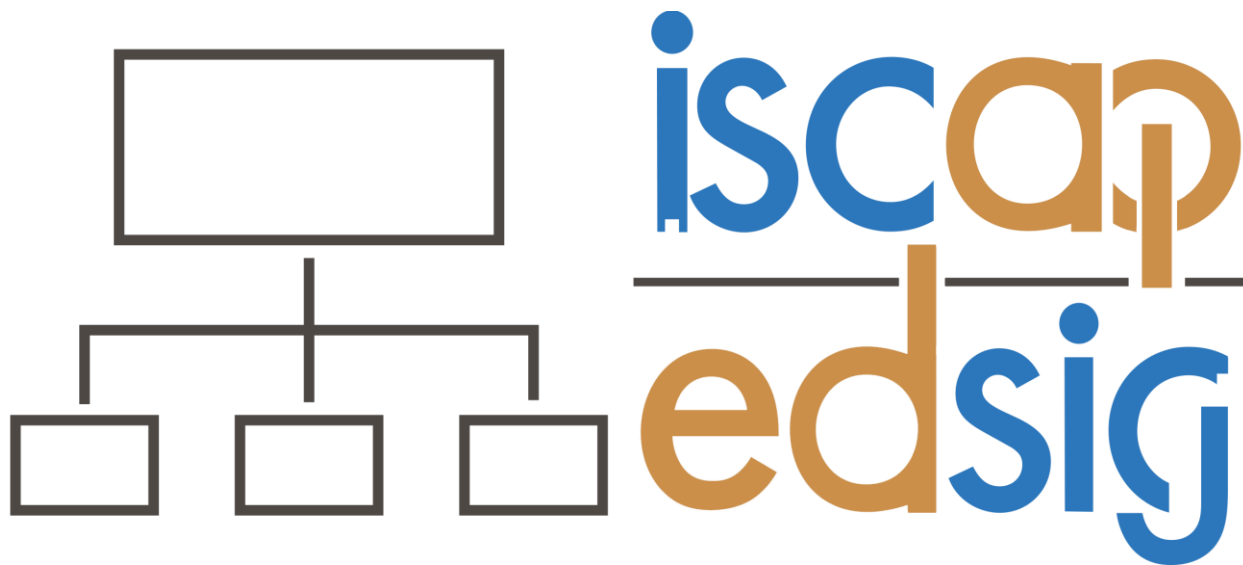
**AUTHOR BIOGRAPHY**

**Safa'a AbuJarour** is an Assistant Professor at the



Management Information Systems Department at An-Najah National University in Palestine. She has been a teaching and research associate at the Department of Business Informatics, University of Potsdam, Germany. She was also a founding member of the research group Digital Integration at the

Weizenbaum Institute for the Networked Society in Berlin, Germany. She has been announced as an AIS Distinguished Member in December 2021. Safa'a is a Conference Co-Chair at the MENA Conference of Information Systems (MENACIS 2021), a Track Chair at the European Conference on Information Systems (ECIS 2020, 2021, and 2022), and a Minitrack Chair at the Americas Conference on Information Systems (AMCIS 2021, 2022) and at the Hawaii International Conference on System Sciences (HICSS 2022). She is a Program Committee Member, an Associate Editor, and a reviewer in top-tier journals and conferences. She is also an Executive Board Member of the AIS Women Network College and AIS SIG Social Inclusion. She has been conducting research related to social inclusion, digital integration, digital learning, working from home, and COVID-19 related topics. Her research has been published and presented in top-tier venues, including CAIS, MISQe, ICIS, ECIS, HICSS, PACIS, and AMCIS, among others.



**Information Systems & Computing Academic Professionals  
Education Special Interest Group**

**STATEMENT OF PEER REVIEW INTEGRITY**

All papers published in the *Journal of Information Systems Education* have undergone rigorous peer review. This includes an initial editor screening and double-blind refereeing by three or more expert referees.

Copyright ©2022 by the Information Systems & Computing Academic Professionals, Inc. (ISCAP). Permission to make digital or hard copies of all or part of this journal for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial use. All copies must bear this notice and full citation. Permission from the Editor is required to post to servers, redistribute to lists, or utilize in a for-profit or commercial use. Permission requests should be sent to the Editor-in-Chief, *Journal of Information Systems Education*, [editor@jise.org](mailto:editor@jise.org).

ISSN 2574-3872