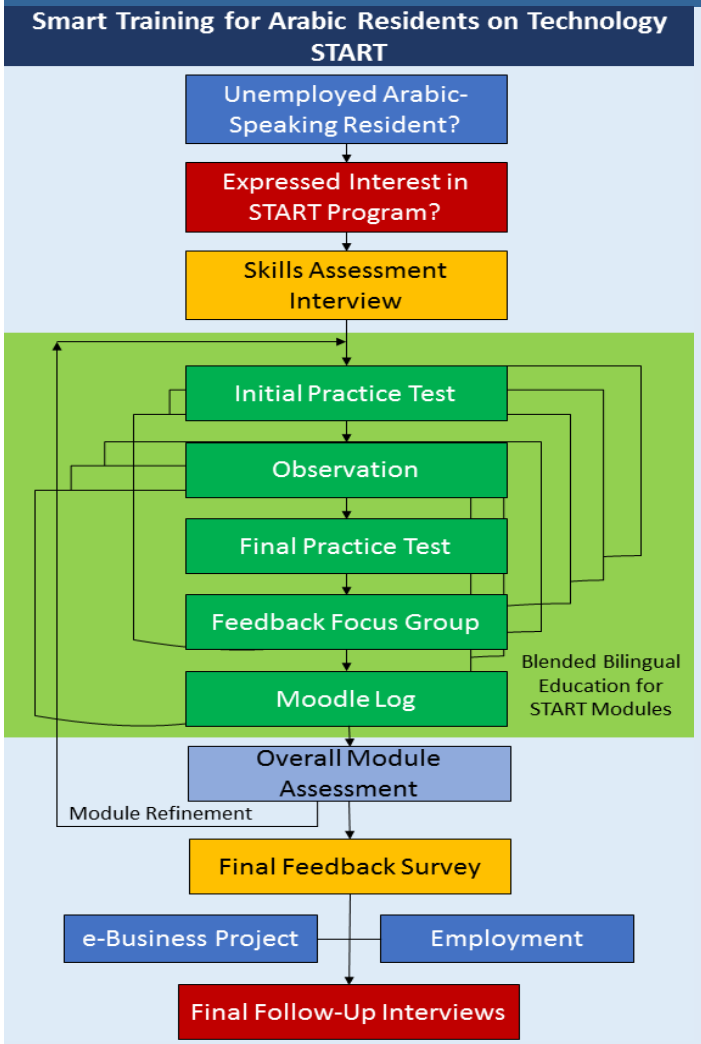
PhD Research Proposal

Enhancing Employability and e-Business Capacities for Arabic-Speaking Residents through Bi-Lingual Multi-Mode Technology Education



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Proposal Abstract

Background: Arabic minority groups in Australia face language barriers, which cause unemployment and/or inability to establish their own businesses. The unemployment rate for this group is ~ 20.5%, which is much higher than the average unemployment rate in Australia (~7%). The current provision of computer and language training in Australia is mainly in English. The Smart Training for Arabic Residents on Technology (START) aims to assist Arabic-speaking residents of South Australia (including refugees) to establish their own online businesses with minimum resources (money, space, and infrastructure) or at least help them towards finding suitable employment.

Methodology and Research Methods: START is an interventional study uses *Design-Based Research DBR*, as it has its own progressive refinement approach. The DBR blends empirical educational research with theory-driven design of learning. The research question is: How does a translinguaging approach used in implementing the multi-mode START Program improve Arabic-speaking migrants' employability and e-business abilities? Within interpretivism research methodology, this study uses both qualitative (skills assessment interviews, observation, feedback focus groups, and final follow-up interviews) and quantitative (initial practical tests, Moodle log, final practical tests, feedback survey) research methods, to establish the connections between the learning and teaching practices and the outcomes, and that help answering the research question.

Expected Outcomes: This study has benefits for Arabic-speaking trainees, the wider community and as a contribution to new knowledge about education for immigrants. From the practical side, Arabic residents will master Computer and English skills and be prepared to establish their own online businesses. As businesses succeed and expand, there will be increased employment opportunities – and if immigrants can demonstrate they have the skills and gain employment, then there would be a reduction in the unemployment rate. Design-Based Research is in its infancy and as a research evaluation method, has not been applied to immigrant education previously. This research project can contribute to a better understanding of the relationships between educational theory, designed learning and outcomes, to help advance how adjustments to learning and teaching environments can refine the critical factors that lead to success for trainees.

Background to the Research Problem

Technological progress has resulted in unemployment due to the replacement of human-labour with machines (Adachi, Inagaki, Nakamura, & Osumi, 2019). Unemployment can be a result of other external factors such as socio-economic factors, as well as individual factors, such as age, gender, marital status, and unemployment history and duration (Houssemand & Pignault, 2019). There were some proposed solutions to the issue of unemployment. Although governments have founded a number of programs, including unemployment prevention services, job search assistance services and re-employment services, it was found that self-employment assistance training programs are more effective in fostering workforce innovation (Wandner, 2018). Moreover, there is a need for vocational education that provides training programs and guidance on career options (Van, 2019).

Unemployment in Australia

Australia provides employment services delivered by for-profit and not-for-profit providers, to deal with jobseekers' barriers to employment (OECD, 2012). There were 827,794 recipients of Youth Allowance and Newstart Allowance by July 2018 (ACOSS, 2018). These unemployment benefits are all tax-financed (OECD, 2012). This causes a financial burden of $1.3 billion/year to the budget of Australian Government (ACOSS, 2018). Seventeen percent of unemployment benefit recipients were identified as being from culturally and linguistically diverse backgrounds, as reported in ACOSS (2018, p. 8). Henriques-Gomes (2019) has reported that the majority of Newstart recipients, on December 2018, are receiving unemployment for an extended period of time, two years up to ten years or more. The more time individuals are unemployed, the more chance they will remain unemployed, regardless of their increased job search efforts to be re-employed (Krug, Drasch, & Jungbauer-Gans, 2019)

Almost 51% to 58% of each state population ranges from 25 to 64 years old (ABS Census, 2016b, 2016e, 2016f, 2016g, 2016h, 2016i, 2016j, 2016k). This age level is considered, in this study, the working age range. South Australia has one of the highest unemployment rates of 7.5% in 2016 (**Error! Reference source not found.**). Although the attempts of the Australian Government to provide recruitment support services, such programs seem to be inefficient. There is a need to "*refocus employment services towards intensive help that makes a difference …*" (ACOSS, 2018, p. 5), and especially with the current recession that is causing many people to lose their employment while others are under-employed, as reported in Table 1 (ABS Census, 2016b, 2016e, 2016f, 2016g, 2016h, 2016i, 2016j, 2016k).

Table 1: Number of employed and unemployed as reported in 2016 Census

(Un)Employment	WA	NT	SA	Qld	Vic	ACT	NSW	Tas	Total
Reported employed	**1,255,702**	**110,390**	**806,589**	**2,312,118**	**2,929,592**	**215,833**	**3,605,872**	**232,950**	**11,469,046**
full-time	715,287	74,100	435,110	1,333,193	1,670,556	137,058	2,134,521	121,822	6,621,647
part-time	376,590	21,493	270,409	691,751	920,875	57,064	1,071,151	81,601	3,490,934
Away from work	65,859	7,112	40,582	111,509	144,696	11,506	174,654	13,162	569,080
Unemployed	**97,966**	**7,685**	**60,488**	**175,665**	**193,465**	**10,205**	**225,546**	**16,365**	**787,385**
Unemployment %	**7.8%**	**7%**	**7.5%**	**7.6%**	**6.6%**	**4.7%**	**6.3%**	**7%**	**Avr ~ 7%**

Between 2012 and 2018, Australia has welcomed around 1.5 million individuals, on skilled migrant, family and humanitarian visas; and of those migrants, 90,459 (6%) are from Arabic Middle East countries (Appendix A**Error! Reference source not found.**), mainly from Iraq and Syria (Department of Home Affairs, 2018; Refugee Council of Australia, 2016, 2018). Although Australia is one of the three countries where English is widely spoken as a first language and yet has no official legal status (Schroedler, 2017), only 27% of these migrants have good English skills (Figure 1).

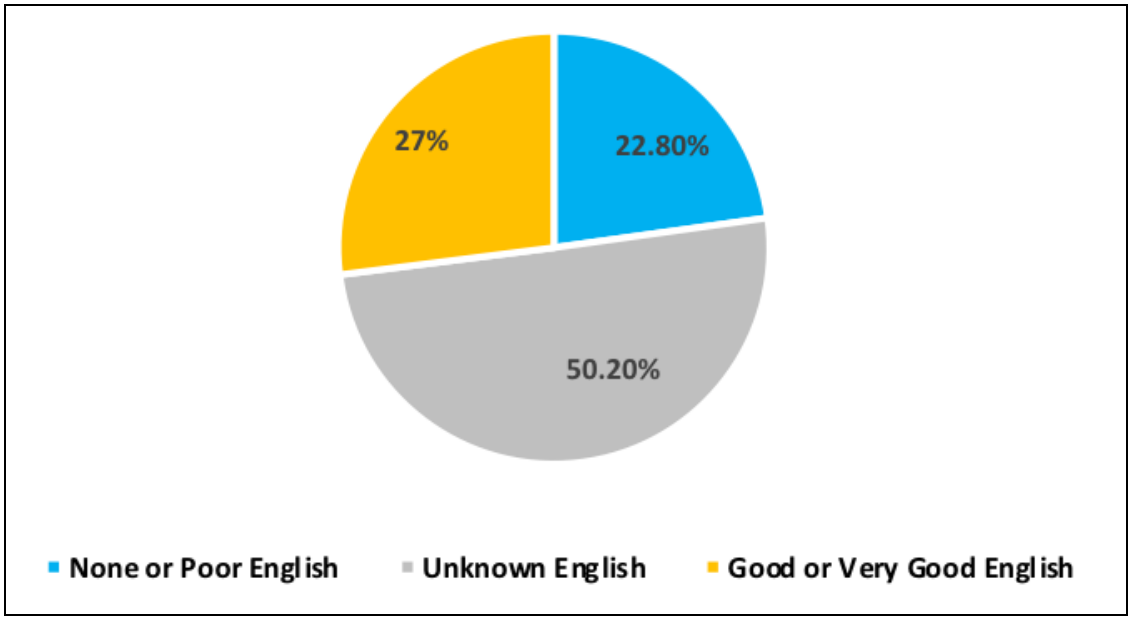

Figure 1: English Proficiency of Migrants to Australia (2012 - 2018)

It can be concluded that, focusing on those who receive the unemployment benefit does not reflect the reality about unemployment, because there are more people who are under employed as well as those who are not entitled to have access to unemployment benefits, such as those on skilled visas.

Profiling unemployment among Arabic residents in Australia

There are no concrete statistics available to report the number of residents from Middle East countries who are experiencing long-term unemployment in Australia. However, an estimate of this number can be based on available statistics that are available through 2016 Census conducted by the Australian Bureau of Statistics and data obtained from the Department of Home Affairs. This estimation may not be accurate, it provides an idea about the extent of the problem among this minority group of Arabic migrants.

According to the 2016 Census conducted by the Australian Bureau of Statistics, the population of Australia is around 23.5 million (ABS Census, 2016a). One-fifth of the Australian Population speaks a language other than English and Arabic is the second spoken language other than English (1.4%) at home (ABS Census, 2016d), where 321,728 individuals speak Arabic.

Based on statistics and information available (ABS, 2014; ABS Census, 2016a, 2016c, 2016h; ACOSS, 2018), there are 272915 in the labour force from Arabic Middle East countries (Table B 1 and Table B 2 in Appendix B); and out of this labour force, there are around 56,000 unemployed Arabic-speaking residents in Australia, as per the estimation calculation presented in Appendix B. Such an estimated number of total unemployed Arabic residents is close to the numbers given by ACOSS (2018, p. 10) in which they report that 21% of the unemployed are from the culturally and linguistically diverse backgrounds.

The lack of English skills is not the only contributing factor to the unemployment issue that the Arabic-speaking residents have. The lack of equal opportunity contributes to their employment challenge. For example, in an experimental study, researchers found that Middle Easterners as well as Chinese have to submit at least 50% more applications in order to receive the same number of call backs for interviews than as Anglo candidates (Booth, Leigh, & Varganova, 2012). Similarly, Pinkerton (2013) found that the majority of Middle Eastern applicants were not given the courtesy of responses that their Anglo Australian counterparts received due to discrimination against race. Such research findings can also be evidenced in relation to speaking voice. For example Dr Moyassar Al-Taie, who is Iraqi PhD qualified and have 15 years of experience, left Australia after a long-time of unemployment because of discrimination (Hassan, 2017).

Information and Communication Technology (ICT) capability includes not only the ability to access and use the technology but also the ability to create and communicate information and ideas, solve problems and work collaboratively, through making use of available digital technologies in every life aspects; and this is evident in the extensive use of advanced internet technology over the past few years and the resulting changes in ways we construct knowledge and interact with others (ACARA, 2019). Although there are no available statistics about how Arabic-speaking residents in Australia do master the Information & Computer Technologies (ICT), we may able to construct some estimations based on available statistics provided by Internet World Statistics IWS (IWS, 2019a, 2019b, 2019c). According to IWS Table A 4 available in Appendix A, although 55% of total Arabic-speaking Middle East population has internet access, only around 8% of such population can access the internet, search for information and process the information, as presented in Figure 2.

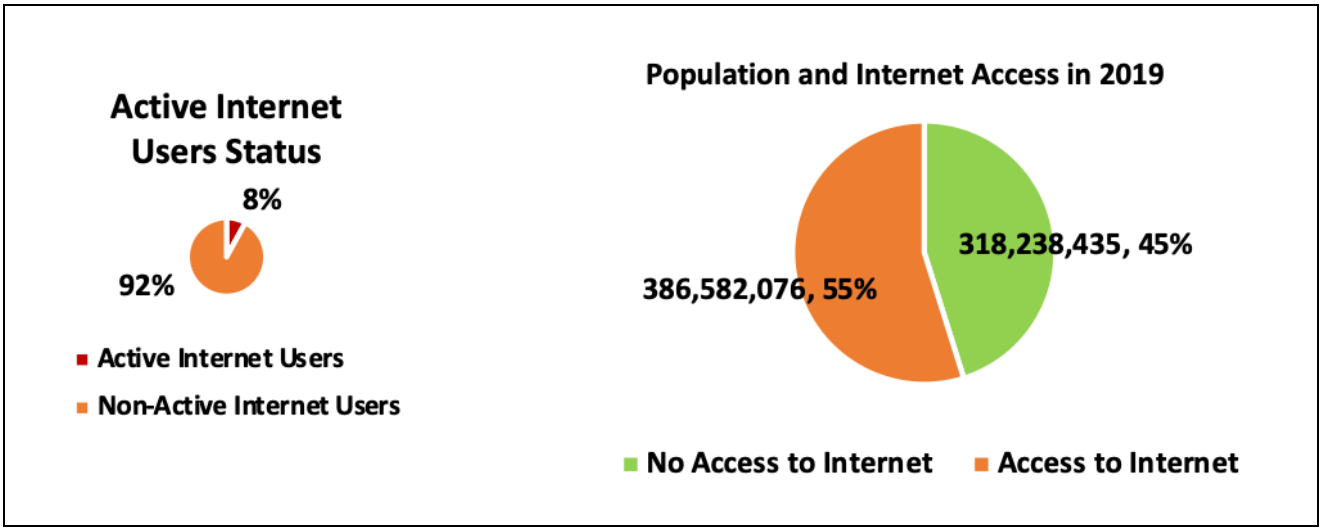

Figure 2: Internet Access & Internet Users in Arabic-speaking Middle East Countries

It can be concluded that the high unemployment rate among Arabic speakers not only relates to their lack of English proficiency or lack of ICT skills, but also relates to other factors such as the inability to establish network connections with people that lead to employment or the discrimination. Therefore, enabling the Arabic-speaking migrants to be employment-ready does not necessarily contribute to gainful employment; and hence, we need to enable them to establish their own businesses, as an alternative solution to their unemployment.

Current solutions to challenges faced by refugees and migrants

Migrants and refugees face many challenges in their new home country, mainly in employment. Other challenges can include financial burdens, loss of professional standing or even because they have not had enough time to complete their studies (Magro, 2007). Furthermore, refugee's challenges can be related to education: refugees face gaps in cognitive skills, gaps in literacy, the need to develop learning skills, and acquisition of English language (Cranitch, 2010). Adding to these challenges, the education system in refugees' home countries tend to depend on teacher-centred pedagogy (Dryden-Peterson, 2016a), which make it difficult for bi-lingual instructors, in their new home countries, to initiate learner-centred activities (Benseman, 2014).

After 2012, following the introduction of the Global Education Strategy (GES) by UNHCR, refugees are integrated within national educational systems with the aim that they can have access to quality education. The integration of refugees in national schools enabled them to develop language skills, through interactions with their diverse peers (McBrien, Dooley, & Birman, 2017). Nevertheless, refugees still experienced marginalization for a number of reasons including their ethnic and linguistic characteristics (Dryden-Peterson, 2016b).

Although the challenges that refugee children face seem to be addressed, or at least identified, adult refugees somehow cannot see a future for themselves (Magro, 2007), because while refugee children are enrolled in formal education, there has been minimal action taken to address challenges that adult refugees face, as they mainly rely on community organisations and NGOs where the provision of services depend on their priorities and available funding (Klingenberg & Rex, 2016).

Not only providing language support is very crucial for refugees in their new hosting countries (Ayalon & Ayalon, 2019; Cairns, Krzaklewska, Cuzzocrea, & Allaste, 2018), but also there is a need to balance between general well-being, acquisition of English language, and addressing the literacy and learning needs (Cranitch, 2010). For example, teachers were unable to meet such balance because there was a lack of time and resources that hinder them from using of pedagogy strategies to develop literacy and language and by using ICT resources (Windle & Miller, 2012).

Migrants and refugees need both computer training and English language training in a way that really help them towards integration. For example, computer classes were provided to refugees to enable them with their daily needs, including accessing public services and researching for employment opportunities (Gilmartin, 2008). Adult refugee learners find it difficult to use English language they acquired within their communities, and they found that volunteering is invaluable for learning the language through practice (Gilmartin, 2008). Therefore, we can make an inference that both language and computer skills are connected to each other and both can be strengthened by authentic training that can provide learners with meaningful activities that meet their needs.

Employability and the increasing demands for skills development

Employability means not only the individual's ability to find suitable employment, it also includes, but is not limited to, their ability to work as it goes beyond their ability to fulfil specific job requirements (Dengler, 2019), and to make transitions between different roles (cited in Castellazzi, 2016). This employability, from the company/business perspective includes general skills, computer and internet skills and English language skills (Dengler, 2019). As it was discussed above, there are a need for training programmes including language and computer skills training, so refugees are able to find employment or start their own business, so that they can sustain themselves and their families (Kury & Redo, 2018).

Some competences are also essential for the effectiveness of day-to-day activities in workplaces, education and everyday life such as problem solving skills, networking and teamwork skills as well as job-specific skills (Castellazzi, 2016) as well as critical thinking skills, decision making capabilities, judgment skills (Wozniak, 2018). Therefore, lifelong learning skills are critical for employability as they motivate individuals to update their skills and knowledge, acquire new competences, and continue professional or personal development (Castellazzi, 2016). It means lifelong learning skills are now a prerequisite for lifelong employability (Dengler, 2019). If ICT is used wisely for creative processes in education (Nikolopoulou, 2018), it can facilitate constructive education, which is essential for lifelong learning (Norberg, 2017).

Without developing such language and ICT skills, the integration of migrants and refugees in hosting countries will remain challenging for governments, communities and the refugees themselves and their families. The delay in developing their ICT skills, not only costs money for funding integration programs, but also costs time because refugees may lose years or months in their preparation for the appropriate level of study. Educators should be aware of current learners' circumstances, prior knowledge and needs, identify authentic learning goals (Windschitl, 2002). Therefore, more authentic training, with learner-centered design, is needed to allow learners to construct their knowledge and get into the habit of lifelong learning progression (Wozniak, 2018).

Addressing Research Problem

Skills Education through English for a Specific Purpose

Context appears to play a role in language learning (Lotze, 2019). Due to the rapid expansion of use of English as a medium of shared knowledge, it was argued that the development of science and technology were an early version of English for a Specific Purpose ESP (Parkinson, 2012). ESP is a constituent part of the constructivist approach, which ensures parallel acquisition of knowledge together with acquisition of the target language (Tarnopolsky, 2012). In this approach, the learning goals need to be context-specific, useful, and meaningful for learners so learners can sense tangible outcomes (Bratitsis, 2017). ESP pedagogies focus on sets of transferable generic skills, where these skills are located within specific contexts, which can act as part of social practices (Paltridge & Starfield, 2012). To adopt and apply ESP pedagogy (Tarnopolsky, 2012), the ESP needs to build new knowledge and skills based on authentic professional content, to achieve professional goals and to reflect real-world situations; and learners must be active in learning activities and constructive in solving professional problems.

There are a number of subjects that have been provided as English for Specific Purpose. For example, business English has been used as ESP, as it uses English for business communication (Bargiela-Chiappini & Zhang, 2012), or when English has been used to provide learners with knowledge/skills needed for employability / business (Ata Allah, 2019; Milad, 2019). A specific example is where an operations manager in technology and global business improved his Finnish-English repertoire from technically oriented to business oriented which helped him to redress miscommunication issues (Räisänen, 2018). Therefore, content-based instruction bridges the gap between learning professional subjects and learning the language (Tarnopolsky, 2012), especially with Arabs who face difficulties in learning English (Aziz, 2019).

Drawing from the migrants and refugee's needs to be able to contribute to their new home, we need an intervention that can deal with various concerns including ICT illiteracy, lack of professional skills, and lack of English proficiency; and that helps them to professionally integrate into business life through employment or establishing their own business.

Bilingual Education through Translanguaging

Many migrants, including refugees, from less developed countries face challenges in the transition to a more advanced educational system, including English language skills and the support they need for social inclusion and integration (King, 2014; Reindorf, 2015). Understanding the cultural sensitivity helps educators to provide support to bi-lingual learners (Passe, 2013) and enhance the interactions among learners in different educational activities (DePalma, 2010). However, not all of these interactions consider cultural sensitivity. It has been highlighted that instructors in bilingual educational programmes, who interact with ethnic minorities, often feel insecure about how to teach from the intercultural point of view (de Mejía, 2004).

There are deep roots for the beliefs that mixing languages during instruction can have a negative impact on cognition through extraneous cognitive loads. However, recent experiments by Baus *et al.* (2016) shows that the *"one person one language rule"* is just an ungrounded belief. Rather, the dynamic use of two languages in learning environments may result in learning experience enrichment, since it allows learners to switch between two languages more naturally, as they do in their everyday life. Furthermore, cognitive skills can be triggered when two languages are used simultaneously (Thomas, Apolloni, & Parry, 2018).

The views towards bi-lingual education have changed overtime. Bilingual education at some stage was considered a barrier to assimilation and integration (Baker, 1997). The traditional bilingual education programs, as a form of "double monolingualism", ignore, or perhaps erase the language practices of immigrants living in their new home countries (Flores & Beardsmore, 2015). Bilingual education then was considered a contributing factor to integration. For example, Martin-Jones (1997) found that bilingual education helps both teachers and learners attend to each other's proficiency in languages they used in the interactions. Negotiating meaning across different languages helps improving learners' critical reading skills (Hanson, 2013).

Another approach to bilingual education is translangualism. Translanguaging is used to negotiate meanings through social and cognitive activities that helps in maximising the understanding and develops skills in the weaker language (Krompák & Meyer, 2018; Lewis, Jones, & Baker, 2012; Mazzaferro, 2018). In a translingual approach to bilingual education, learners are able to go back and forth between various aspects of linguistic repertoire, so they can engage with throughout their education (Flores & Beardsmore, 2015, p. 219). Hence, the pedagogy is not a one-way approach from teachers to students, but rather it is an interactive process where negotiations are practiced between languages (Kafle & Canagarajah, 2015, p. 248). In practice, teaching a subject (the 'content') through the medium of a language that is new, or perhaps weak, to a learner, as a medium of instruction, facilitates the linguistic interaction between the teacher and the learners which helps the learner to continue using the language (Thomas et al., 2018). Once a learner has internalized the translation equivalents and is able to refine their understanding of the content, the translation is no longer needed (Lewis et al., 2012; Lewis, Jones, & Baker, 2013).

While it was argued that teaching bi-lingually can act as a mean of enhancing language learning outcomes (Fitriati, 2015; Xerri, 2018), the dynamic nature of cross-cultural studies pushes towards harnessing further research into translingual practices (Donahue, 2013). For example, Ticheloven (2016), a Swedish scholar, argued the need to design accessible and applicable translanguaging pedagogies in both mother tongue instruction in Arabic, Turkish, Urdu and Kurdish and in Swedish in the classrooms to assist mother tongue speakers who recently enrolled in Swedish schools (cited in Hornberger, 2017). In Indonesia, there was an attempt to develop English language skills through a bilingual study of mathematics and science subjects. Hang (2012) and Xiao and Wu (2009) have identified some key success factors for teaching a course bi-lingually including: 1) Teachers need to be capable to teach bi-lingually; 2) Students have an acceptable level of English, 3) Well developed learning materials that facilitate the learning bilingually, and 4) The content/subject should be meaningful for the learners.

To conclude, although previous research has focused on how language learning can be empowered by the use of technology (Goodwyn, 2000; Nguyen, 2013; Thomas, Reinders, & Warschauer, 2013), there is a lack of research that aims to focus on how learning ICT skills can enhance mastering English using translanguaging approach. The reason, however, to adopt a translingual approach is because it may provide a good way to develop language competency, and at the same time may result in deeper and fuller understanding of the subject matter, because translanguaging makes lack of understanding less likely to occur (Lewis et al., 2013).

Face-to-Face and Online Education

Blended learning involves both face-to-face-based (synchronous / human interaction) settings and computer-based (asynchronous / text-based interactions) settings. In blended learning, learners potentially have more self-directed learning, as it provides to learners the ability to organise digital and multimedia content (Milad, 2019). Blended learning allows the opportunity for learners to engage with their instructors and at the same time enables learners to work on the activities at their own convenient time, place and pace. To adopt effective blended learning, there are a number of considerations, including having clear learning objectives, facilitation strategies suitable for learners, and the instructional strategies are appropriate to achieve the learning outcomes (Hew & Cheung, 2014). Factors such as the instructor's timely responses, quality of course content, and the quality of course design are positively associated with learners' satisfaction (Chen & Yao, 2016).

The ADDIE Instructional Design Model provides a conceptual tool to visualise, direct, and manage processes for creating high quality teaching and learning materials. The ADDIE Model for Instructional Design consists of five major activities: (1) Analysing learners' needs and the education setting; (2) Designing an effective learner's environment; (3) Developing learning materials; (4) Implementing instructional strategies; and then (5) Evaluating results of the development, both formative and summative (Branch & Kopcha, 2014). Following these steps helps avoid potential failure, as they give learners the opportunity to provide feedback, so the original design can be improved (Kaminski et al., 2018, p.92). The analysis of learner's needs is conducted at the initial stage as learning developments need to be considered at different stages to provide input into an iterative design, including the goals, content, methods, media and time (Seel, Lehmann, Blumschein, & Podolskiy, 2017). This is so that the designed instructions can be adjusted to meet the learner needs and achieve the desired outcomes, and helps to determine whether the instruction has resulted in advances in learners' knowledge and skills (Lee & Hanham, 2019).

The current study is based on constructivism learning theory, where each learner produces their own knowledge and forms meaning based on their experiences (McKenney, 2012). Within this approach, teachers focus on student-centred learning as it encourages autonomy, interaction and collaboration. It helps learning how to learn, by establishing meaning connections between their previous experience, new knowledge and processes of learning activities (Bada, 2015). Within ADDIE instructional design framework, there are a number of questions that needed to be answered (Seel et al., 2017, p. 69), including: who are the learners?, what are the learning objectives or the instructional goals?, and how can we achieve the instructional strategies? Answering these questions before commencing any instructional design helps achieving a more learner-centred design, grounded on constructivist learning.

Conducting START Research Project

Design-Based Research

Design-based research (DBR) encompasses interventions that are specifically designed for classroom settings for enhancing learning as it progresses (Brown, 1992). DBR has its quasi-experimental nature, that is derived from the experimental processes used in hard sciences, as it aims to test and refine educational designs that are based on principles obtained from previous research, by generating evidence-based claims about learning, and through refinements during the research process (O'Toole, 2013). These experiments are concerned with the design of various aspects of the learning environment, including materials, tools, tasks, patterns of communication and interactions, (Reimann, 2011).

Design-Based Research blends empirical educational research with theory-driven design of learning in order to understand the relationships among educational theory, designed learning artefacts, and practice (Baumgartner et al., 2003). DBR involves continuous cycles of design, enactment, analysis, and redesign, to refining the practices at all levels (Reimann, 2011). Design experiments have their own *progressive refinement approach*, until an optimal design is reached (Collins, Joseph, & Bielaczyc, 2004, p. 33). Design researchers need to review the design iteratively to optimize it as much as possible, through using both qualitative and quantitative data (Collins et al., 2004). Hence, DBR is characterized as an inter-disciplinary mixed-method research approach (Baumgartner et al., 2003).

It was argued that instructional design has a historical connection to the educational design research because many of the proponents of this type of inquiry were originally derived from instructional design (McKenney, 2012). Achieving an interventional design, requires an understanding of the underlying variables at all relevant layers of any complex social system (Sandoval & Bell, 2004). These layers include: 1) Cognitive/personal level of learners; 2) Interpersonal level of interactions between teachers and learners; 3) Resource level of accessibility and integration into designed activities; and 4) Institutional level of the administrative support (Collins et al., 2004).

In conducting DBR, both qualitative and quantitative evaluations are essential, including surveys, interviews, and observations etc, to evaluate its dependant and independent variables (Collins et al., 2004, pp. 35-38). The dependent variables include, for example: engagement, cooperation, student control, content knowledge, skills, learning strategies, accessibility, scalability, and ease of adoption; while the independent variables may include: the setting such as homes or workplaces, socioeconomic status, attendance rate, study materials, technical support, teacher readiness, equipment, service costs, development costs and implementation of a design and its duration.

In refining the design, for example, Kaur, Noman and Nordin's (2017) study revealed that students expressed their appreciation for less structured and more flexible environments of classroom experience. The group work environment fostered mutual understanding, respect and sense of relatedness. Students viewed themselves as positive contributors to group work which enhanced their feeling of competence. Although the capacity of DBR in advancing understanding of education theories and benefitting education practices simultaneously (McKenney & Reeves, 2013), design-based research has, however, a number of challenges that contributes to the limitations of the current study. These limitations will be discussed in the limitations section.

Study' Aims

The intervention is called "START", which stands for Smart Training for Arabic Residents on Technology" or "إبدأ", a word that is an order verb to *start* in Arabic. Using Design-Based Research, this study will blend the empirical educational research with theory-driven design of learning in order to develop and refine the START Program. Most of the previous research that has used design-based research, has been conducted within formal education settings. However, the design-based research in this study is concerned with adult learning for enhancing employability.

In the START Program, we will use bilingual education, namely through translinguaging, to educate ICT/computer skills to START trainees, face-to-face and online. We will be using the ADDIE approach to improve the instructional design. There is a lack of knowledge about integrating these two educational approaches, i.e. bilingual education and multi-mode education, to educate Arabic-speaking migrants to use ICT and at the same time to develop their English skills. During continuous cycles of design, enactment, analysis, and redesign, there will be touchstone points to anticipate the START Program's key outcomes.

This study aims to explore advances in creating novel learning and teaching environments, harnessing design knowledge, and enhancing the capacity for educational innovations that result in gainful employment or participants developing their own e-business. The analyses of data obtained during implementation will refine the START Training Program. It will involve listening to START trainees and recording their experiences, to help reach the optimal combination of factors that can achieve the highest learning and teaching outcomes in the future.

Research Flowchart

START Resolution: Smart Training for Arabic Residents on Technology (START) is a short title for this research. The current research project is an interventional study, using START Training Program, designed specifically for Arabic-speaking residents. We aim to help the unemployed either by enhancing their employability by developing their ICT/Computer skills, as well as English, or through progressing to e-Business phase where participants are required to develop their own e-business projects, as per below START Project Flowchart (Figure 3).

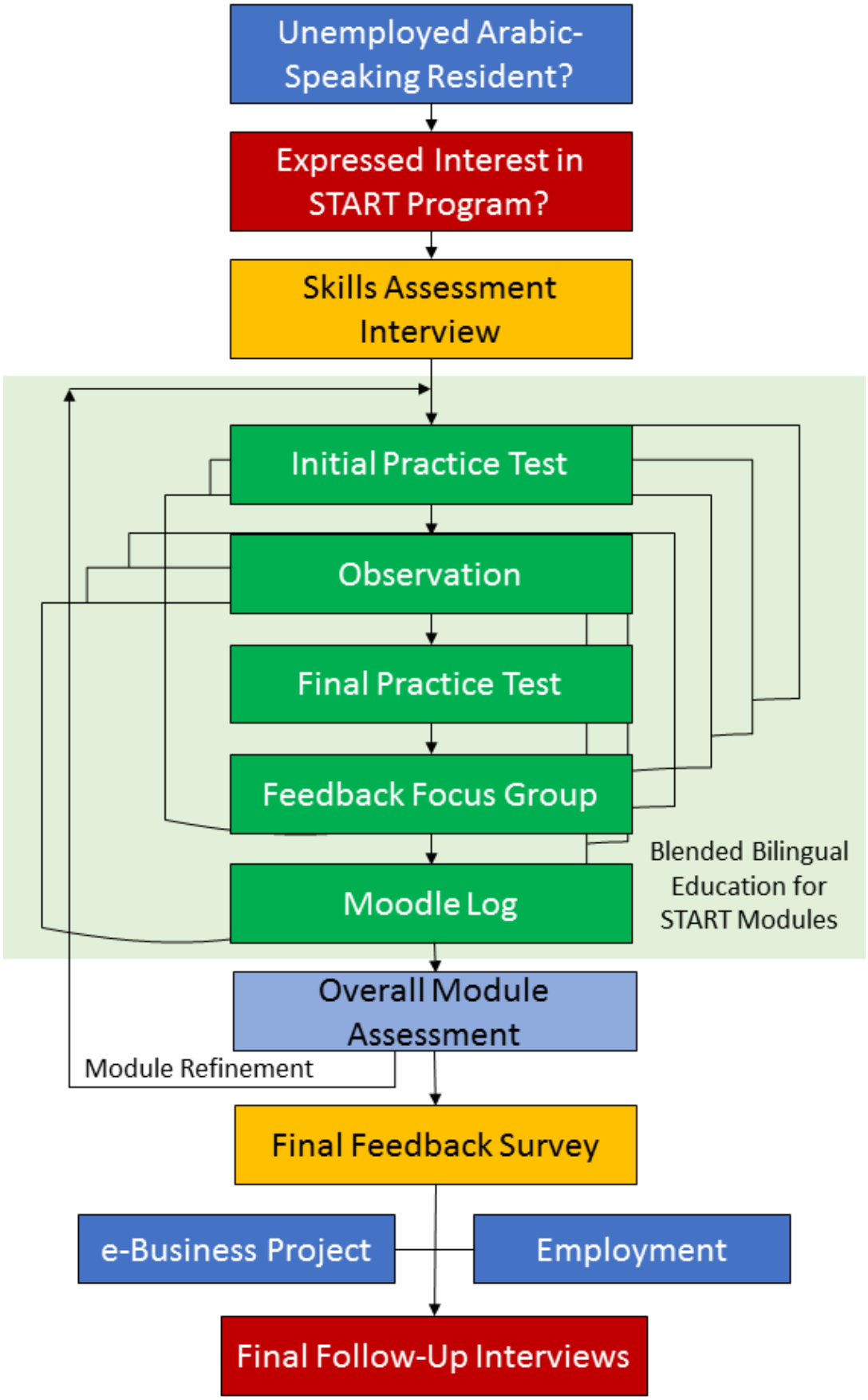

Figure 3: START Project Flowchart

Research Population and Sample

There are around 56000 unemployed Arabic-speaking residents in Australia, and about 4000 in South Australia. From this population, participants in the current study will be recruited. The researcher, will use a convenience sampling approach (Gitlin & Czaja, 2015) in selecting the participants, by having access to a particular group, namely, in this study, those who attend or deal with Arabic-speaking communities (mainly churches, mosques and community organisations) and refugee centres (such as ARA and AMRC) and who are interested in participating in the study and meet inclusion/exclusion criteria. Although the convenience sampling approach is criticised, as having sample bias, such an approach can be justified due to the time limit and lack of funding.

Research Questions

Research Main Question

Research questions frame the research project and in answering the research questions, we need to consider the different possible ways in which these questions can be answered (Kelly, 2012). In educational design research, it is quite common to formulate overarching broad research questions (McKenney, 2012). The main research question is:

- How does a translinguaging approach used in implementing a multi-mode START Program improve Arabic-speaking migrants' employability and e-business abilities?

Step-by-Step Approach to START Research Project

To be able to answer the research main question, the researcher will need to answer a number of relevant questions:

1) **What inclusion/exclusion criteria should be used to identify the study sample?**

The proposed criteria used to identify the sample are:

- Unemployed working-aged adults, who have work rights and are seeking employment or would like to establish their own businesses.
- Middle Eastern Native Arabic Speakers
- Residing in Adelaide, South Australia.
- Have basic level of English skills (can understand what they read and can write).

2) **How can those unemployed Arabic-speaking residents be recruited?**

There are a number of organisations that provide help to the unemployed (such as APM Employment, Jobs Statewide etc) and refugees (ARA and AMRC) in addition to Arabic-speaking community organisations, including churches and mosques. Distributed flyers ( ) and a series of presentations will be delivered to invite unemployed Arabic-speaking residents to participate in the START Training Program. Those who are interested to participate in the START Training Program will need to fill-in the Expression of Interest ( ). This form also has information about the START Project so they can make informative consent to participate in the data collection.

3) **What ICT skills are required for the unemployed Arabic-speakers to learn?**

This study will help to address the need for unemployed Arabic-speaking residents, including refugees, to learn ICT Skills to enhance their employability and business readiness. These skills are essential for their daily life with their employers or for themselves as future business owners. Not only will ICT/computer skills be developed during the START Training Program, but also their English level is likely to be improved (see for more information about the START Program Plan).

4) **How can the researcher develop a profile for each Arabic-speaker resident?**

During the skills assessment semi-structured interviews (see the Interview Guide in), the researcher will construct a personal profile for each potential participant. This interview will determine whether a potential participant would benefit by the START Program through a skills assessment and whether they have skills and willingness suitable for developing an online e-businesses. After the skills assessment, the researcher will invite some to participate in the START Training Program.

5) How can the researcher design and conduct the START Training?

Teaching ICT skills will be face-to-face while other activities and assessments will be through an implemented learning management system (LMS). The START Training will be according to training plan ( ). Within this START Training Program, we aim to develop different levels of ICT skills (Beetham, 2017). Using Learning Management Systems (LMS) have contributed to learners' sense of progress (Jung, Kim, Yoon, Park, & Oakley, 2019). Within the START Project LMS System, there will be learning activities that engage learners and facilitate collaboration with inbuilt reflective experiences. According to Karlsson and Janson (2015), a syllabus needs to be prepared first, followed by preparing the content and learning activities within the LMS.

6) How can the researcher assess Arabic-speaking residents' learning of ICT skills?

During the ICT classes, a number of research methods will be used to collect data about unemployed Arabic-speaking migrants' and refugees' learning progressions in their ICT skills. These methods include: skills assessment semi-structured interview, module initial practical test, semi-guided observation, Moodle log, module final practical test, feedback focus groups, final feedback survey and final follow-up interviews. The next section will discuss these methods in detail.

Research Methodology and Methods

There are some epistemological considerations when we think about how meaning is developed. Constructivism is a meaning-making activity in the individual mind (Crotty, 1998), while constructionism is the collective generation and transmission of meaning (Brundrett & Rhodes, 2013; Crotty, 1998). The methodological approach we used in this study is interpretivism because it is people-centred, with attempts to explore meanings of a phenomenon or an event from the subjects' perspectives (Brundrett & Rhodes, 2013).

A mixed methods research design can provide a better understanding of a research problem and research questions that could not be achieved using either method alone (Baumgartner et al., 2003). It involves combining the data from the multiple methods, to provide a complex picture of a phenomenon (Creswell, 2014). In this study, there will be a multi-stage mixed-method design (Creswell, 2014), to evaluate any impact of the project or program (Baumgartner et al., 2003).

Initial Skills-Assessment Semi-Structured Interactive Interview

Interviews provide more insightful knowledge about the research participants. Unlike the limitations associated with structured and unstructured interviews, semi-structured interviews allow participants to express themselves in their own words and explore issues in greater depth within a limited time frame (Bernard, 2000). The semi-structured interview is guided by a framework of topics to be discussed (Decher, 2016). Before we conduct interviews, we must identify the purpose of the interview and design it taking in mind the ethical considerations (Kvale, 2011).

The researcher of this study will conduct in-depth interactive semi-structured interviews with the START Program potential trainees (Appendix G). Not every business can be conducted online. Therefore, the researcher will conduct an initial assessment for each potential participant who expressed the interest to enrol in START program. This initial assessment will identify whether the products or services, alongside the required skills, can be provided online.

Semi-Guided Observation

Observation provides a systematic approach to 'watching' inquiry, as it is guided by rational and interest in obtaining data on events, occurrences, events, processes, reactions, and relationships (Smart, Peggs, & Burridge, 2013). Observation provides information about how individuals behave in natural settings (Burton & Bartlett, 2009). Observation can be structured, semi-structured and unstructured (Gillham, 2008). Some researchers seek to quantify the recorded data so their data can be of a systematic shape, although it reduces the richness of detailed descriptions by the observer (Wragg, 2012).

In this research, observations will be semi-guided or semi-structured for flexibility to collect a range of types of data about participants practices or learning behaviours (O'Leary, 2013). Participant observation (Jorgensen, 1989) is where the researcher is embedded in the phenomenon, as in this START Training Program, since it allows the opportunity to observe directly practices of individuals during their engagement (Dahlke, Hall, & Phinney, 2015). The researcher will use an observation guide/observation (Appendix I) to remain focused on specific points to be observed (Angrosino, 2007; Bryman, 2012; Burton & Bartlett, 2009).

Moodle Logs and Learning Analytics

Logs are recordings of actions by electronic systems. When log-data is used in educational research, it gives an in-depth understanding of the path learners use, and when it is accompanied with an analysis of clicks, can provide better information about what participants focussed on and the frequency of their level of inquiry (Michaloudis, Molohidis, & Hatzikraniotis, 2018). Learning Management Systems (LMS), such as Moodle or Chamilo, provide a source for information about learner-learner interactions or learner-content interactions (Lu & Law, 2012). These log data record all activities in forms of learner ID, time stamp, clicks per activity, and IP address. Beyond these data, Moodle has more sophisticated functions, including activity completion, grades, and course reporting (Horikoshi, Noguchi, & Tamura, 2018). In Moodle, there are different log reports (Cooch, 2019; Moodle, 2019a, 2019b; UMass, 2019), including: 1) Course Activity Log; 2) Teaching Level Log; 3) Participation Level Log; and also 4) Live Log in the past hour.

Learning Analytics (LA) provide powerful information about learner's performance and their learning progress. There are a number of LA tools available in different LMS platforms. While Moodle offers several tools for assessment such as activity logs, quizzes, and course participation, Moodle also offers a number of learning analytics tools, and most effective tools are GISMO, MOCLog, and Learning Analytics Enhanced Rubric (LAe-R) (Yassine, Kadry, & Sicilia, 2016). These LA will provide information about variables such as login frequency, time spent in the system, number of downloads, number of performed exercises, interaction with peers, and number of forum posts (Mwalumbwe & Mtebe, 2017). The researcher will use different logs and LA reports (Appendix J) to explore the online behaviour for the START Program learners.

Initial and Final Practical Tests

There are three common methods used in education to measure learning outcomes, these are self-reported surveys, grades, and test-based measurement (Caspersen, Smeby, & Olaf Aamodt, 2017). Self-reported surveys are criticised to be biased and subjective in measuring the learning outcomes. Grades and test-based measurement are more objective for measuring the learning outcomes. While grades provide more broader measure of learning outcomes, the tests have the capacity to measure outcomes for different competencies, dimensions, or knowledge domains (Humburg & van Der Velden, 2015). These practice tests are recently used in business such as CLIK Test (Criteria, 2019).

Recently, most vocational education and training (VET) in Australia use competency-based assessment for training programs (Kelly, 2009). There are a number of criteria for competency-based assessment, including the most important criterion the fitness for purpose, and acceptability, transparency, comparability, meaningfulness, fairness and authenticity (Baartman, Bastiaens, Kirschner, & van der Vleuten, 2006). Competency-based assessment has been criticised for its inability to recognise the underpinning knowledge (Kelly, 2009). For this reason, it has been argued that the number of learning activities should be used together to assess skills and knowledge attainment (Brilingaitė, Bukauskas, & Juškevičienė, 2018). In this research, practical tests will be used at the beginning (Appendix H) and end of each module (Appendix K), to enable an assessment of progress for the SMART trainees. Single cases will be used to track skills development as proposed by Horner and Odom (2014). The initial measurement acts as a starting point while the following measures act as evaluations of progress.

Feedback Focus Groups

Focus groups are used when the researcher aims to collect information from group members about their opinions, feelings perceptions, concerns, interests, and insights into reasons for those opinions in regard to a particular topic (Jayanthi & Nelson, 2001). Often the information can far exceed the anticipated benefits (Barbour, 2011) especially because they provide opportunities to collect clarifications or answers to follow-up questions (Stewart, Shamdasani, & Rook, 2007). They also provide rich data in the words of participants (Stewart et al., 2007). Although focus groups can be used alongside other research methods, they cannot be used to validate findings from these other research methods (Bloor, Frankland, Thomas, & Robson, 2001).

Focus groups, when they are used at the end of a study, can be considered "feedback groups" (Bloor et al., 2001), and they are particularly useful when participants provide useful constructive feedback about an intervention. In this study, the researcher will take comprehensive notes and audio record the group discussions to augment the details written in notes, as recommended by Jayanthi and Nelson (2001). Group interviewing will focus on trainees' opinions and insights on the START Program, giving attention to suggested modifications and improvements to areas for improvement (Appendix L), as part of the design-based research method.

Final Feedback Survey

Surveys are widely used to collect large amount of data (Saris & Gallhofer, 2014, p. 159). Surveys enable exploration of the correlations among the variables (McBurney & White, 2010). At the end of the ICT sessions, participants in START Training Program will be requested to answer a survey (that will be implemented in START Project Moodle LMS) to report their experience during the sessions (Appendix M). Answers will be analysed to draw a bigger picture about this study trial.

End-of-START Follow-up Individual Interviews

Interviews are very useful research methods that enable the researcher to reach "areas of reality" that would remain unknown (Decher, 2016). Interviews with students, and in this study interviews with trainees, can provide rich data if they are well managed. More specifically, Murphy (2013, p. 103) highlighted some strategies for interviewing students that focus on solutions to the most important problems. In conducting an interview, there are a number of aspects to consider, including providing information about the purpose of the interview, collecting consents, and deciding whether or not the interviews should be recorded or written or both (Raworth et al., 2019). In this study, the researcher will conduct in-depth interviews with the START Program trainees to know more about their experiences related to the program, including the thoughts they have concerning the program operations, processes, and outcomes, and about any changes they perceived as a result of their involvement in the program (Boyce & Neale, 2006, p. 3).

Although it is too early to decide on topics to be included in the interviews guide (Appendix N), these interviews will be conducted after 6 months from the end of START Program. The reason for this gap between the end-of-START Program and the interviews is to enable sometime to evaluate whether the START Program was successful with trainees in having gainful employment or fruitful e-business. Furthermore, the researcher is keen to know the extreme success cases in their e-business project and those who failed in their e-businesses and why. The depth of understanding about their experiences will help further in refining the current START Program.

Research Significance and Outcomes

Research Significance

As it can be concluded from the literature review, unemployment among Arabic-speaking residents in Australia (~21%) is three times more than unemployment rate in Australia (~7%), leaving about 56,000 unemployed across all Australian states and territories, as summarised in Figure 4. As discussed in detail above, there are other unique reasons contributing to the extremely high unemployment rate among Arabic-speaking residents in Australia. These reasons, as explained above, are: lack of English skills (Cranitch, 2010), lack of ICT skills, lack of professional skills including critical thinking, problem-solving, networking, decision making and team work skills (Castellazzi, 2016; Dengler, 2019) and discrimination (Booth et al., 2012).

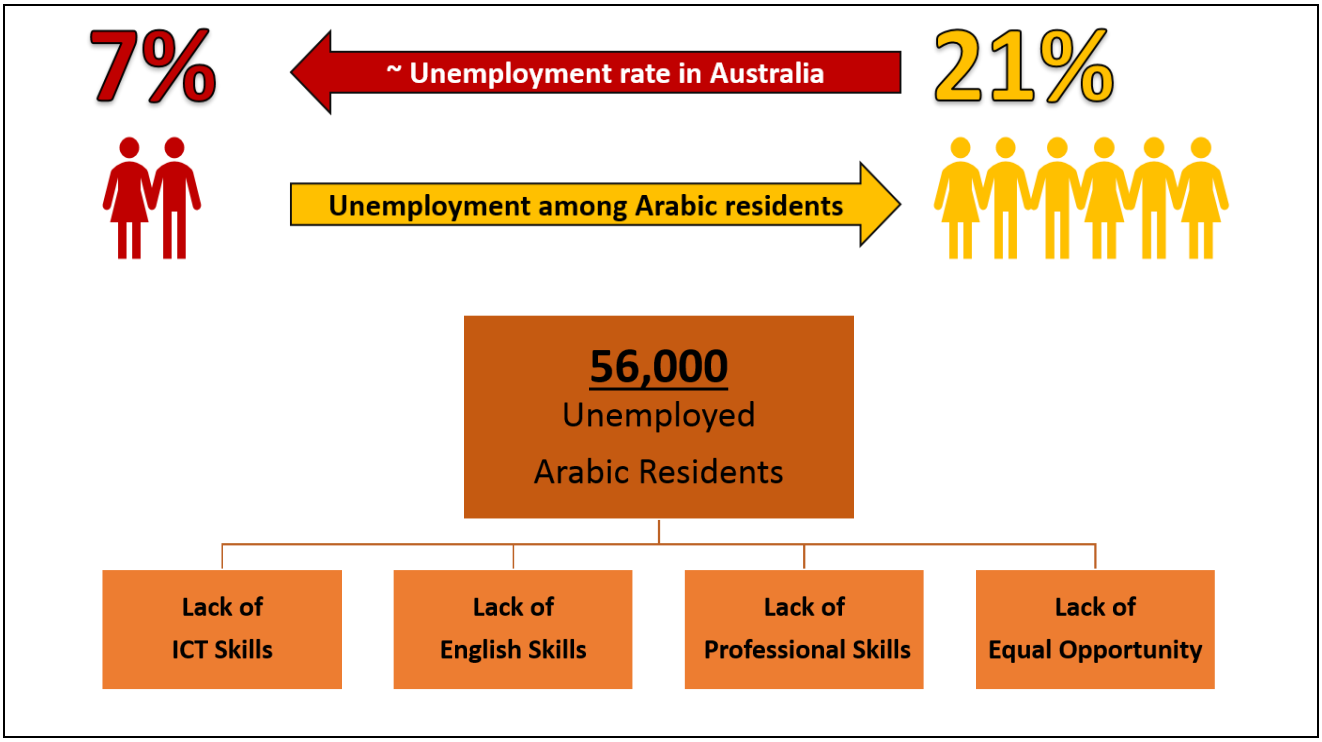

Figure 4: Unemployment among Arabic-speaking residents in Australia

Although it was suggested that providing training towards career options (Van, 2019) and English communication (Gilmartin, 2008), these programs seemed unable to help participants to gain employment, especially noting that there are still a large number of unemployed on employment benefits for two to ten years or more (Henriques-Gomes, 2019). Although governments have founded a number of programs from unemployment prevention services to job search assistance services and reemployment services, self-employment assistance programs seem to be more effective, enabling the unemployed participants to be able to work full time in their own established small businesses, which fosters workforce innovation (Wandner, 2018).

The current provision of ICT/computer training is in English. Without developing English language and ICT skills, the integration of Arabic-speaking residents in hosting countries will remain challenging for governments and Arabic-speaking communities. The delay in developing ICT skills for Arabic-speaking residents not only costs money for funding unemployment benefits and inefficient integration programs, but also costs time because Arabic-residents may lose years or months in their preparation for the appropriate level of study. Given the high unemployment rate, enabling Arabic-speaking migrants to be employment-ready does not necessarily contribute to gainful employment. Therefore, we need to enable them to establish their own businesses, as an alternative solution to their unemployment. This is likely to be effective through more authentic training with learner-centered design.

It was discussed above that English for Specific Purpose (ESP) requires parallel acquisition of knowledge with acquisition of language' communication skills (Tarnopolsky, 2012). In this study, the START Program develops English skills, indirectly, while developing both business skills and technology skills directly (see for example Bargiela-Chiappini & Zhang, 2012; Parkinson, 2012). Translanguaging, as a pedagogical practice in bilingual education, involves cognitive and socio-cultural advantages, as it maximises the understanding and develops skills in the "weaker language" (Lewis et al., 2012) through an interactive process where negotiations are practiced between languages (Kafle & Canagarajah, 2015, p. 248). In the current study both ICT skills and business skills can be improved through translanguaging as a pedagogical practice. Although previous research has focused on how language learning can be empowered by the use of technology (Goodwyn, 2000; Nguyen, 2013; Thomas et al., 2013), there is a lack of research that focuses on how learning business skills and ICT skills can enhance mastering English using a translanguaging approach.

Although it was argued that instructional design has a historical connection to the educational design research because many of the proponents of this type of inquiry were originally derived from instructional design (McKenney, 2012), in this study we are using design-based research not only to evaluate and refine the START intervention (Figure 5), but also it may help in reshaping the ADDIE Model for Instructional Design to consider direct and indirect learning goals, especially that ADDIE Model has not been applied in designing the teaching and learning activities aiming to educate the Arabic-speakers both ICT and business skills using translanguaging approach, that may result in improving their English skills.

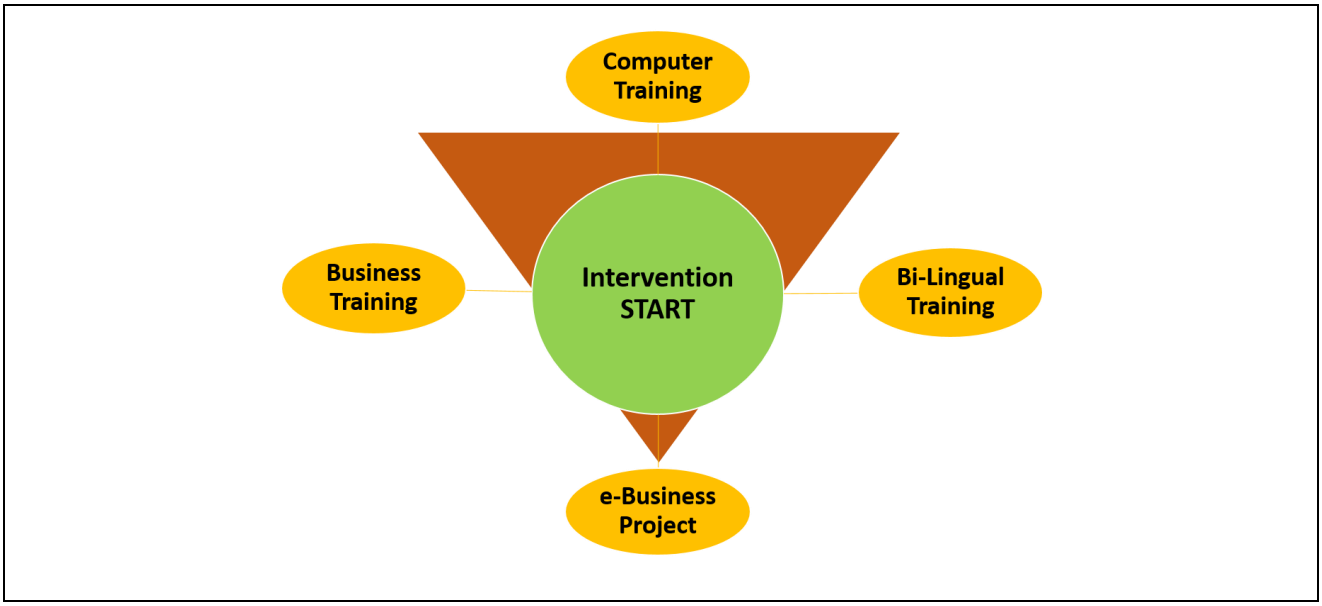

Figure 5: The intervention of START Training Program

Although design-based research is widely known and used in education, it can be understood from Anderson and Shattuck (2012) who surveyed the most cited articles in the last decade, that there is a lack of this type of research conducted in Australia, especially in Vocational Education and Training (VET) settings. Similarly, Bakker (2018) suggested the need for genuine contribution to intervention studies based in vocational education. Most of the previous DBR studies have been conducted within formal education settings. However, the design-based research in this study is concerned with adult learning for enhancing employability and e-business capabilities. Furthermore, small percentages of these studies concerned developing and advancing vocational education, computer education or English language education (Anderson & Shattuck, 2012).

Although previous research has focused on how language learning can be empowered by the use of technology (Goodwyn, 2000; Nguyen, 2013; Thomas et al., 2013), there is a lack of research that aims to focus on how learning ICT skills can enhance mastering English using translanguaging approach. Furthermore, there is a lack of knowledge in terms of how to structure a program using a translingual approach (Flores & Beardsmore, 2015, p. 218).

Previous studies have dealt with lack of different skills in isolation of each other. An intervention, such as proposed and outlined in Figure 5, can deal with various concerns including ICT illiteracy, lack of professional/business skills, and lack of English proficiency. This approach can contribute to the shift towards outcomes-based education (Hake, 2013; O'Brien, 2013). Since it is argued that it is better not to teach English directly (Tarnopolsky, 2012), the intervention will teach Arabic-speaking migrants ICT skills and business skills and will indirectly help them to improve their English skills, through translanguaging pedagogy practices. Although previous programs dealing with unemployment issues seem unsuccessful, the intervention proposed is likely to help improve employability and e-business opportunities to Arabic-speaking residents. Such potential outcomes not only help the integration of Arabic-speaking migrants, their financial situations and their well-being but their employment will also benefit the wider community through decreasing the unemployment rate and the financial burden on the Australian budget.

Research Outcomes

Educational design research has two contributions: contribution to education theory and contribution to practice through the intervention that aims to solve a problem through iterative adjustments (McKenney, 2012).

Contributions to the Participants

START will enable the Arabic Residents, including refugees and physically disabled, to:

1) master Computer/ICT skills, English skills and the lifelong learning skills that are needed for changing business environments;
2) gain employment because they master English and computer skills that empower them to search and apply for positions and have successful interviews;
3) establish their own online businesses, including developing their skills that enable them to manage their income and expenses, maintain customer contacts, present, develop and manage their online shopping carts, and market their services/products online.

Contributions to the Community

There are a number of potential benefits to the Australian government and the community from this research project and the START intervention, as can be briefly outlined below:

1) Increasing awareness among migrants and refugees form Arabic Middle East countries about the fundamentals of integration and success in their new home country of Australia.
2) Reducing the burden on the Australian Government in budgeting the unemployment benefits and helping in rethinking on better ways to help the unemployed.
3) As businesses succeed and expand, there will be increased employment opportunities – and if immigrants can demonstrate they have the skills and gain employment, then there would be a reduction in the unemployment rate.

Contributions to the Discipline

1) This study contributes to Design-Based Research, and in its application beyond the formal education settings, to develop and refine the START Program, as a designed learning artefact.
2) Design-based research methods provide a means to explore educational innovations that help addressing challenges in our community and adult education, including lack of different skills results in unemployment among Arabic-speaking residents.
3) The design-based research is a continuous cycle of design, enactment, evaluation, and redesign. Findings from each stage and feedback from Arabic-speaking participating trainees will be important in refining each START module and in developing the next module, and until an optimal START Training Program can be reached, with considerations of applicability to other language minorities.

Research Limitations

Any study has its limitations that are needed to be explained (Punch, 2000), including in research constraints and research methodology (McKenney, 2012). This study includes some constraints relating to the time and available funding. These will contribute to limitations in the sample size and the time needed to reach the optimal design through the progressive refinement processes (Collins et al., 2004).

In terms of methodological limitations: As a result of gathering qualitative and quantitative data, there are challenges for design researchers because a lot of data is easily generated (Collins et al., 2004). Moreover, Design-Based Research requires retrospective analyses of the longitudinal data sets. Although Cobb, Confrey, diSessa, Lehrer, and Schauble (2003) have advised that in designing an intervention it is recommended to have a separate teacher, researcher and two research assistants, the "concept" of a team is not be possible in this PhD.

Moreover, the researcher in this study will use a convenience sampling approach (Gitlin & Czaja, 2015) in selecting the participants, those who attend or deal with Arabic-speaking communities which can be criticised as having sample bias. Such a limitation is acknowledged and can be justified due to the time limit, the context for the tanslanguaging approach and lack of funding to support the researcher's time.

Although the current study aims to reach an optimal refinement for the START Training Program, it will be realistically difficult to "recreate" the exact learning environment and learning activities (Zheng, 2016) in future programs. Therefore, the direct transferability of the findings may not be directly applicable to another context since the outcomes within the developmental cases depend on the characteristics of the specific participants in this study.

Arabic speech recognition systems that transform speech to text are still facing many challenges, especially that these systems do not recognise short vowels nor the differences in the spoken and written forms (AbuZeina & Elshafei, 2012; Lamel, Messaoudi, & Gauvain, 2009; Menacer et al., 2017), which may suggest the need for manual transcription. Transcriptions for interviews and focus groups add further burden to the researcher (Stewart et al., 2007), and hence, the researcher decided to avoid the time and effort consumption through using summary notes, which may cause bias in summarisation, but will consult audio recordings to obtain clarifications and augment the notes. Since this study is an interventional through START training program, which spans over a period of time, and due to the voluntary participation in the training program and the study itself, it is expected that there is low response rate and potentially a high turnover. The researcher will convey the possible benefits of staying in the program to the participants, and will seek suggestions for how to provide ongoing social outcomes for being part of the group.

Research Publications Plan

This research is conducted for a PhD by Publication at Flinders University. The researcher aims to publish findings for analysed data from each stage, including a literature review and one on research methods (Appendix O).

Research Ethics

Research with humans is regulated by legislations that protect research participants to ensure that data collection activities and procedures are conduced ethically, and especially in obtaining informed consent from participants (Paoletti, Tomás, & Menéndez, 2013). Other factors that research ethics committees are cautious about is ensuring no harm to participants as well as maintaining their privacy and confidentiality (Bryman, 2012; Kelly, 2012).

Although there are some challenges of obtaining consents from refugee participants because the trauma they may recall (Mackenzie, McDowell, & Pittaway, 2007), the current study has very low risk that may contribute to recalling negative experiences. While some immigrants may also be sensitive to research due to their illegal status or undocumented identities (Liamputtong, 2007), the current study has very low risk, because the study participants are those who have work rights in Australia.

In this study, potential research participants will be asked to sign informed consent. There will be three styles of consent: 1) Hardcopy consent sheet they will need to sign, after the presentations in different Arabic-speaking communities ( ); and digital consents in the form of 2) Online consent and 3) SMS consent which they need to sign in response to distributed flyers ( ). A research ethics application has been prepared and is ready to be submitted to Flinders University Human Research Committee ( ).

Research Budget

The budget depends on the equipment available in the hosting organisation for the ICT classes. If the hosting organisation is not equipped with the hardware, there will be a need to buy hardware and software to facilitate the computer classes. The hosting organisation has sought a grant to fund this project. If the grant application is successful, a number of learners will be increased and we, then, can provide incentives. An option is that participants bring their own device/laptops (BYOD[1]) which will be considered if the funding is limited. Table 2 below outlines the budget for the project.

Table 2: PhD Research Budget

ITEM	Cost / Item	No.	Total
Laptop (with windows & office installed)/BYOD[1]	$400.00	7	$2800.00
Mouse & Pad	$20.00	7	$140.00
Data Show	$500.00	1	$500.00
White Board & Markers	$300.00	1	$200.00
Pocket Wi-Fi (at least 7 channels)	$200.00	1	$200.00
Monthly Internet Connection Subscription for Year	$30.00	12	$360.00
Website Development Software Quote (for 7 PCs)	$140.00	7	$1000.00
Notebook Printing	$10.00	25	$250.00
Domain & Website Hosting (for START Project)	$800.00	1	$800.00
Stationary	$50.00	1	$50.00
TOTAL			**$6300.00**

Research Timeframe

This PhD Research Project is by Publications, and hence the timeframe of this research project includes phases of the research project as well as the anticipated publications, as per below Table 3.

Table 3: PhD Research Project Timeframe (Research Phases & Research Papers)

Research Timeframe: Phases & Papers	Year (1)				Year (2)				Year (3)			
Literature Review & Research Writing												
Research Methodology & Ethics Application												
Paper (1) on Literature Review & Project Proposal				♦								
START Project System Development & Update												
Skills Assessment semi-Structured Interview												
Data Analysis & Paper (2)				♦								
Module 1 Training: Computer (2weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)					♦							
Module 2 Training: MS Word (2weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)					♦							
Module 3 Training: MS Outlook (2weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)						♦						
Module 4 Training: MS Excel (2weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)						♦						
Module 5 Training: MS Access (2weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)							♦					
Module 6 Training: MS PowerPoint (2weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)							♦					
Module 7 Training: Online Business (2 weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)								♦				
Module 8 Project: e-Business (2 weeks)												
Data Analysis & Paper (3), Paper (4), Paper (5), Paper (6)								♦				
Final Feedback Survey & Data Analysis												
Survey Data Analysis & Paper (7)									♦			
End-of-Project Follow-up Interviews												
Interviews Data Analysis & Paper (8)											♦	
SMART Project: General Analysis and Discussion												
SMART Project: Challenges & Opportunities Paper (9)												♦
Writing connecting chapters for PhD Thesis												

Research Phase

♦ Research Paper

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List of Appendices

Appendix A: Recent Migrant to Australia with Special Focus on Migrants from Arabic Countries

Table A 1: Migrants to Australia (2012 – 2018) by Country of Birth

Visa / State	Humanitarian		Family		Skilled		Total [1, 4, 5]	
	N	%	N	%	N	%	N	%
Australian Capital Territory	**1,115**	100%	**7,043**	100%	**19,112**	100%	**27,270**	100%
Total Arabic Countries	461	41.35	262	3.72	497	2.60	**1,220**	4.47
Total World Countries	654	58.65	6,781	96.28	18,615	97.40	**26,050**	95.53
New South Wales	**39,239**	100%	**146,141**	100%	**307,562**	100%	**492,942**	100%
Total Arabic Countries	28,614	72.92	9,454	6.47	8,670	2.82	**46,738**	9.48
Total World Countries	10,625	27.08	136,687	93.53	298,892	97.18	**446,204**	90.52
Northern Territory	**371**	100%	**3,946**	100%	**10,085**	100%	**14,402**	100%
Total Arabic Countries	59	15.90	55	1.39	136	1.35	**250**	1.74
Total World Countries	312	84.10	3891	98.61	9949	98.65	**14,152**	98.26
Queensland	**14,466**	100%	**59,907**	100%	**124,028**	100%	**198,401**	100%
Total Arabic Countries	4,558	31.51	978	1.63	1,864	1.50	**7,400**	3.73
Total World Countries	9,908	68.49	58,929	98.37	122,164	98.50	**191,001**	96.27
South Australia	**8,483**	100%	**20,845**	100%	**53,638**	100%	**82,966**	100%
Total Arabic Countries	1484	17.49	619	2.97	1512	2.82	**3,615**	4.36
Total World Countries	6,999	82.51	20,226	97.03	52,126	97.18	**79,351**	95.64
Tasmania	**2,586**	100%	**2,985**	100%	**9,086**	100%	**14,657**	100%
Total Arabic Countries	232	8.97	42	1.41	113	1.24	**387**	2.64
Total World Countries	2,354	91.03	2,943	98.59	8,973	98.76	**14,270**	97.36
Victoria	**35,504**	100%	**118,887**	100%	**286,569**	100%	**440,960**	100%
Total Arabic Countries	13,932	39.24	5,491	4.62	6,372	2.22	**25,795**	5.85
Total World Countries	21,572	60.76	113,396	95.38	280,197	97.78	**415,165**	94.15
Western Australia	**6,350**	100%	**46,353**	100%	**122,652**	100%	**175,355**	100%
Total Arabic Countries	1321	20.80	1228	2.65	2112	1.72	**4,661**	2.66
Total World Countries	5,029	79.20	45,125	97.35	120,540	98.28	**170,694**	97.34
Not Recorded State/Territory	**15**	100%	**1,093**	100%	**5,462**	100%	**6,570**	100%
Total Arabic Countries	2	13.33	96	8.78	295	5.40	**393**	5.98
Total World Countries	13	86.67	997	91.22	5167	94.60	**6,177**	94.02
TOTAL	**108,129**	**7.44**	**407,200**	**28.01**	**938,194**	**64.55**	**1,453,523**	**100%**

Note (1): Number of migrants from Arabic Middle East countries is 90,459 (~ 6%), and world countries (94%). Humanitarian entrants from Arabic Middle East countries are 50,663.

Table A 2: Migrants to Australia (2012 – 2018) by English Proficiency

Visa / State	Humanitarian		Family		Skilled		Total [2, 4, 5]	
	N	%	N	%	N	%	N	%
Australian Capital Territory	**1,115**	**100%**	**7,043**	**100%**	**19,112**	**100%**	27,270	**100%**
None or Poor English	841	75.43	1,562	22.18	3,052	15.97	5,455	20.00
Not Recorded	188	16.86	4,321	61.35	10,286	53.82	14,795	54.25
Good or Very Good English	86	7.71	1,160	16.47	5,774	30.21	7,020	25.74
New South Wales	**39,239**	**100%**	**146,141**	**100%**	**307,562**	**100%**	492,942	**100%**
None or Poor English	33,385	85.08	38,819	26.56	48,361	15.72	120,565	24.46
Not Recorded	4,545	11.58	89,282	61.09	160,683	52.24	254,510	51.63
Good or Very Good English	1,309	3.34	18,040	12.34	98,518	32.03	117,867	23.91
Northern Territory	**371**	**100%**	**3,946**	**100%**	**10,085**	**100%**	14,402	**100%**
None or Poor English	314	84.64	745	18.88	1,586	15.73	2,645	18.37
Not Recorded	27	7.28	2,617	66.32	4,596	45.57	7,240	50.27
Good or Very Good English	30	8.09	584	14.80	3,903	38.70	4,517	31.36
Queensland	**14,466**	**100%**	**59,907**	**100%**	**124,028**	**100%**	198,401	**100%**
None or Poor English	12,111	83.72	11,305	18.87	20,864	16.82	44,280	22.32
Not Recorded	1,690	11.68	35,058	58.52	59,332	47.84	96,080	48.43
Good or Very Good English	665	4.60	13,544	22.61	43,832	35.34	58,041	29.25
South Australia	**8,483**	**100%**	**20,845**	**100%**	**53,638**	**100%**	82,966	**100%**
None or Poor English	7,347	86.61	5,147	24.69	8,108	15.12	20,602	24.83
Not Recorded	731	8.62	12,544	60.18	29,095	54.24	42,370	51.07
Good or Very Good English	405	4.77	3,154	15.13	16,435	30.64	19,994	24.10
Tasmania	**2,586**	**100%**	**2,985**	**100%**	**9,086**	**100%**	14,657	**100%**
None or Poor English	2,388	92.34	491	16.45	759	8.35	3,638	24.82
Not Recorded	130	5.03	1,722	57.69	4,675	51.45	6,527	44.53
Good or Very Good English	68	2.63	772	25.86	3,652	40.19	4,492	30.65
Victoria	**35,504**	**100%**	**118,887**	**100%**	**286,569**	**100%**	440,960	**100%**
None or Poor English	29,469	83.00	27,923	23.49	44,477	15.52	101,869	23.10
Not Recorded	4,156	11.71	75,075	63.15	161,637	56.40	240,868	54.62
Good or Very Good English	1,879	5.29	15,889	13.36	80,455	28.08	98,223	22.27
Western Australia	**6,350**	**100%**	**46,353**	**100%**	**122,652**	**100%**	175,355	**100%**
None or Poor English	5,035	79.29	8,064	17.40	26,131	21.30	39,230	22.37
Not Recorded	968	15.24	27,740	59.85	52,954	43.17	81,662	46.57
Good or Very Good English	347	5.46	10,549	22.76	43,567	35.52	54,463	31.06
Not Recorded State/Territory	**15**	**100%**	**1,093**	**100%**	**5,462**	**100%**	6,570	**100%**
None or Poor English	7	46.67	2	0.18	404	7.40	413	6.29
Not Recorded	7	46.67	979	89.57	3,442	63.02	4,428	67.40
Good or Very Good English	1	6.67	112	10.25	1,616	29.59	1,729	26.32
TOTAL	**108,129**	**7.44**	**407,200**	**28.01**	**938,194**	**64.55**	**1,453,523**	**100%**

Note (2): Nearly 20% - 25% of migrants to Australian states and territories has poor or no English skills. The average of None/Poor English (22.8%), Unknown English Skills (50.2%) and Good/Very Good (27%).

Table A 3: Migrants to Australia (2012 – 2018) by Age Category

Visa / State	Humanitarian		Family		Skilled		Total [3, 4, 5]	
	N	%	N	%	N	%	N	%
Australian Capital Territory	**1,115**	**100%**	**7,043**	**100%**	**19,112**	**100%**	**27,270**	**100%**
00 - 24	546	48.97	1,994	28.31	7,687	40.22	10,227	37.50
25 - 65	534	47.89	4,749	67.43	11,410	59.70	16,693	61.22
66 - 99	35	3.14	300	4.26	15	0.08	350	1.28
New South Wales	**39,239**	**100%**	**146,141**	**100%**	**307,562**	**100%**	**492,942**	**100%**
00 - 24	18,031	45.95	42,469	29.06	110,145	35.81	170,645	34.62
25 - 65	19,419	49.49	96,061	65.73	197,223	64.13	312,703	63.44
66 - 99	1,789	4.56	7,611	5.21	194	0.06	9,594	1.94
Northern Territory	**371**	**100%**	**3,946**	**100%**	**10,085**	**100%**	**14,402**	**100%**
00 - 24	214	57.68	1,438	36.44	3,643	36.12	5,295	36.77
25 - 65	151	40.70	2,476	62.75	6,428	63.74	9,055	62.87
66 - 99	6	1.62	32	0.81	14	0.14	52	0.36
Queensland	**14,466**	**100%**	**59,907**	**100%**	**124,028**	**100%**	198,401	**100%**
00 - 24	8,393	58.02	18,483	30.85	47,198	38.05	74,074	37.34
25 - 65	5,837	40.35	39,452	65.86	76,708	61.85	121,997	61.49
66 - 99	236	1.63	1,972	3.29	122	0.10	2,330	1.17
South Australia	**8,483**	**100%**	**20,845**	**100%**	**53,638**	**100%**	**82,966**	**100%**
00 - 24	4,846	57.13	7,436	35.67	21,653	40.37	33,935	40.90
25 - 65	3,489	41.13	12,741	61.12	31,944	59.55	48,174	58.07
66 - 99	148	1.74	668	3.20	41	0.08	857	1.03
Tasmania	**2,586**	**100%**	**2,985**	**100%**	**9,086**	**100%**	**14,657**	**100%**
00 - 24	1,503	58.12	798	26.73	3,650	40.17	5,951	40.60
25 - 65	1,014	39.21	2,100	70.35	5,427	59.73	8,541	58.27
66 - 99	69	2.67	87	2.92	9	0.10	165	1.13
Victoria	**35,504**	**100%**	**118,887**	**100%**	**286,569**	**100%**	**440,960**	**100%**
00 - 24	18,131	51.07	37,110	31.21	116,053	40.50	171,294	38.84
25 - 65	16,402	46.20	77,154	64.90	170,388	59.46	263,944	59.86
66 - 99	971	2.73	4,623	3.89	128	0.04	5,722	1.30
Western Australia	**6,350**	**100%**	**46,353**	**100%**	**122,652**	**100%**	**175,355**	**100%**
00 - 24	3,332	52.47	15,281	32.97	45,782	37.33	64,395	36.72
25 - 65	2,911	45.84	29,527	63.70	76,739	62.57	109,177	62.26
66 - 99	107	1.69	1,545	3.33	131	0.10	1,783	1.02
Not Recorded State/Territory	**15**	**100%**	**1,093**	**100%**	**5,462**	**100%**	**6,570**	**100%**
00 - 24	5	33.33	285	26.08	2,187	40.04	2,477	37.70
25 - 65	9	60.00	782	71.54	3,267	59.81	4,058	61.77
66 - 99	1	6.67	26	2.38	8	0.15	35	0.53
TOTAL	**108,129**	**7.44**	**407,200**	**28.01**	**938,194**	**64.55**	**1,453,523**	**100%**

Note (3): Almost 60% of migrants is working class.

Note (4) & Source: The above tables have been developed and compiled based on the data obtained from the Department of Home Affairs, Settlement Data Unit settlement.data.request@homeaffairs.gov.au, on Monday 16 September 2019.

Note (5): Data provided by the Department of Home Affair of Australian Government, have some limitations, including that the Settlement Database has not been adjusted to reflect settlers who are deceased or have had their visas cancelled. Moreover, the settlement database includes some duplicate settler records and only record the settler's latest known residential (or intended residential) address. Any value <5 was replaced by 2 by the researcher, with some minor adjustments to maintain the logic of data presentation. Arabic countries include Algeria, Bahrain, Djibouti, Egypt, Gaza Strip, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestinian Authority, Qatar, Saudi Arabia, Somalia, South Sudan, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.

Table A 4: Internet in Arabic Middle East Countries

Arabic Middle East Countries [6]	**Population 2019**	**Internet Access 30Jun19 [7]**
Algeria	42,679,018	25,428,159
Djibouti	985,690	548,832
Egypt	101,168,745	49,231,493
Libya	6,569,864	3,800,000
Mauritania	4,661,149	969,519
Morocco	36,635,156	23,739,581
South Sudan	13,263,184	2,229,963
Sudan	42,514,094	13,124,100
Tunisia	11,783,168	7,898,534
Western Sahara	582,478	28,000
Bahrain	1,637,896	1,615,620
Iraq	40,412,299	19,947,510
Jordan	10,069,794	8,700,000
Kuwait	4,248,974	4,231,978
Lebanon	6,065,922	5,546,494
Oman	5,001,875	4,011,004
Palestine (State of)	5,186,790	3,381,787
Qatar	2,743,901	2,734,297
Saudi Arabia	34,140,662	31,856,652
Syria	18,499,181	6,335,969
United Arab Emirates	9,682,088	9,532,016
Yemen	29,579,986	7,903,772
TOTAL	**428,111,914**	**232,795,280 [8]**

Note (6) & Source: The source data coming from selected Arabic-speaking Middle Countries available at https://www.internetworldstats.com/stats5.htm as well as selected Arabic-speaking African Countries available at https://www.internetworldstats.com/stats1.htm

Note (7): Internet World Stats (IWS) differentiates between Internet Usage and Internet Users [source: https://www.internetworldstats.com/surfing.htm#1]. In their views, internet users are those who currently have the capacity to not only to access the Internet but also have the basic knowledge to use web technology and process the information. Therefore, it is the researcher view to better defining the Internet Usage as Internet Access.

Note (8): After excluding Israel and Iran from Middle East countries [https://www.internetworldstats.com/stats5.htm], we can conclude that only around 8% of those who have internet access in Arabic-speaking Middle East countries are actually can use the internet to search for information and process the information.

Appendix B: Labour Force of Australian Migrants born in Arabic countries

Table B 1: (Un)Employment among Australian migrants born in Arabic countries

Labour Force Status	Employed, worked full-time	Employed, worked part-time	Employed, away from work	Employed, hours of work not stated	Unemployed, looking for full-time work	Unemployed, looking for part-time work	Not in the labour force	Labour force status not stated	Not applicable	Total
Algeria	372	214	16	18	49	38	606	22	55	1389
Egypt	9818	5300	409	405	889	673	18582	518	3182	39776
Libya	548	332	31	19	114	68	1055	28	326	2533
Morocco	524	306	30	20	93	56	791	26	35	1882
Sudan	3267	2535	147	477	1417	931	6665	345	1247	17029
Tunisia	136	60	6	5	19	17	287	7	18	565
Western Sahara	5	0	0	0	0	0	3	0	0	7
South Sudan	1706	1192	55	241	726	418	2711	182	469	7697
Bahrain	595	244	31	16	49	37	328	5	311	1617
Gaza & West Bank	494	277	26	34	84	48	1836	38	92	2939
Iraq	10157	7142	363	849	2198	1767	38142	792	5943	67353
Jordan	1437	867	80	91	267	178	2113	46	837	5914
Kuwait	1762	691	78	70	227	170	2428	30	567	6016
Lebanon	17659	10899	753	1288	1727	1153	42515	1029	1632	78649
Oman	244	163	14	7	18	70	693	0	420	1625
Qatar	229	99	9	12	21	29	195	10	511	1118
Saudi Arabia	1275	868	78	51	201	354	6403	33	3333	12578
Syria	2262	1478	82	159	402	422	7976	138	2407	15324
UAE	1672	916	87	64	184	237	1544	19	3491	8226
Yemen	203	89	5	0	32	25	249	4	75	686
Total	**54363**	**33656**	**2309**	**3830**	**8724**	**6689**	**135110**	**3267**	**24955**	**272915**

Estimation of Unemployed Arabic-speaking migrants

There are 27,2915 people (Table B1) in the labour force from Arabic Middle East countries, according to the data generated by the Census Table Builder Tool (ABS Census, 2016c). The census glossary for the meaning of "Not in the labour force" for the total Australian population (ABS, 2014), includes not only people who do not want to work (~70%), but also includes those who want to work (~30%).

Table B 2: (Un)Employment among Australian migrants born in Arabic countries

Labour Force Status	Numbers
Employed, worked full-time	54363
Employed, worked part-time	33656
Employed, away from work	6142
Unemployed, looking for full-time work	8724
Unemployed, looking for part-time work	6689
Not in the labour force	135110
Not stated	3267
Not applicable	24955
Total	**272915**

Therefore, an estimate of the population of Arabic Middle East residents would be around 56,000 (8724+6689 + [30% x 135110= 40533] = 55946). The percentage of total unemployed Arabic residents is ~20.5% (estimated unemployed 55946 ÷ total labour force 272915). Such an estimated number of total unemployed Arabic residents is close to the percentage given by ACOSS (2018, p. 10) in which they report that 21% of the unemployed are from the culturally and linguistically diverse backgrounds. The percentage of South Australia population [1,676,653 ÷ 23,401,892 = ~ 7%] (ABS Census, 2016a, 2016h) compared to the total Arabic-speaking unemployed of 56000, means there are nearly 4000 Arabic-speaking residents in South Australia who are unemployed.

Appendix C: START Training Plan

Smart Training for Arabic Residents on Technology

START Training Outline

Module	General Computer Orientation	
	ICT/Computer Learning Objectives	**English Learning Objectives**
General Objectives	This module will only be provided to those who have no idea about computers and internet. This module is to enable learners to progress in the following modules. This module is optional.	
Lesson (1)	Knowing different ICT technologies (PC, Laptop, Tablet), and different Components of PC, including the mouse and its R/L buttons	Presenting (Speaking) in English how to set-up and connect a laptop
Lesson (2)	Navigating the computer (desktop and hard-drives). Knowing File creation & Saving it, re-locate it. Using keyboard & mouse. Creating & saving a paint file.	Creating a paint file (listening) and following up instructor's' instruction.
Lesson (3)	Connecting to the internet Exploring websites Register & login → for login to SMART Moodle system Upload documents	Reading aloud, the components of the SMART modules and understand. Knowing Australian news websites.
Lesson (4)	Creating Professional-looking Email Account firstname.lastname@domain.com and knowing its components: sender, subject, content, and the receiver – and the difference between To, CC, BCC – by experiment.	Presenting (in English) why communication through emails are important Writing an email to the classmate in English
Lesson (5)	Review: Making sure the candidate knows basic computer skills Making sure the candidate knows basic internet navigation skills	Reading a selected news article, presenting a summary of it, and sharing the article to a class-mate. Develop the sense of living in the digital age/western world. Develop the sense of online learning in Western world of Australia
Session (6)	Evaluation	

Module[3]	Microsoft Word[1]	
	ICT/Computer Learning Objectives	**English Business Learning Objectives**
General Objectives	This module enables the learner how to use MS Word. By the end of this module, the learner will be able to write his resume, cover letter, preparing Quote, and write an offer.	
Lesson (1)	Creating new word file Understanding Home Menu (font type, size, colour) Writing short-bio (name, contact, qualifications).	Knowing different degrees & certificates in English. Presenting the bio and what they do to the class.
Lesson (2)	Understanding Insert menu (mainly Tables & images). Making employment history & insert personal photo in the CV. Making products quote and insert their images.	Knowing different positions, professions, products, and services in English.
Lesson (3)	Polishing & Formatting - Headings - Cell Fill Colour - Bold/Italic/Underline Formatting the CV or Quote in better way that attracts the eye.	Developing the understanding of the job market or business market by: - Presenting the skills and experience - Presenting the goods and services
Lesson (4)	Learning how to search for positions using revenant keywords and write the cover letter accordingly. Learning how to respond to a response to customer and to write an offer.	Developing the reading and comprehension skills by reading position advertisements or competitor' advertisements/product& services listings.
Lesson (5)	Review: Ensuring the candidate knows: - Searching for a position, adjusting the CV, and writing a customised cover letter email, and attach the CV. - Market your product by sending a personalised email offer to a client and attach a customised quote.	Reading and understanding different CV and cover letter templates to choose adequate presentation, content, and style. Reading and understanding different styles and presentations of writing quotes and business/offer communication letters/emails.
Session (6)	Evaluation[2]	

Note (1): Blended Learning Activities

In the MS Word sessions, there will be different in-class learning activities – including: Practice, Presentation, Listening to News/Videos, Reading News Articles, and Writing, Group Discussion about Australian Market. Also, learners will be required to do online learning activities – including listening to embedded videos and writing summaries, reading posts into discussion forums and engage in discussions, reading module glossary, answering quizzes and upload assignments. The evaluation will be based on all in-class activities, online activities and the final practical test.

Note (2): Refining START Modules

This study uses a design-based research. Data collected from many sources will be analysed. These include:

1) Initial Practical Test, and along with
2) Final Practical Test
3) Feedback Focus Group
4) Observation
5) Moodle Log

Along with data analysis results and in consultation with the grades that learners received for the evaluation, pedagogy theory and practices, there will be refining for the next module of the START Program.

Note (3): START Program Modules' Ultimate Objectives

Module	**Employment**	**e-Business**
General Orientation	Basic Computer Skills	Basic Computer Skills
Microsoft Word	Resume & Cover Letter/Email	Quote and Offer Letter/Email
Microsoft Excel	Planning Project Budget	Monitoring Income & Expenses
Microsoft Access	Friends/Colleagues Contacts	Customers/Suppliers Contacts
Microsoft Outlook	Mail-Merge Business Invitation Emails	Mail-Merge Marketing Emails
Microsoft PowerPoint	Presenting Product/Service for Employer	Generating Video Advertisement for Online Marketing
Website Design	Employer Website/Blog	Business Website/Blog
e-Business Project	Not Applicable Have ABN Ready	Shopping Cart & PayPal ABN & Business Name

Appendix D: Social and Behavioural Research Ethics Application

Note: The SBRE Application Form is a separate file to be submitted to Social and Behavioural Research Ethics Committee.

Appendix E: START Project Flyer

Information Flyer Smart Teaching for Arabic Residents on Technology (START)	START	To participate in START
Smart Teaching for Arabic Residents on Technology (START) is a training program that aims to enhance the opportunities for Arabic residents in Adelaide to secure employment or establish and run an online business via providing computer (Information & Communication Technologies ICT) training bi-lingually in Arabic and English. This bi-lingual ICT training will also improve English skills. During this START Training, data will be collected about trainees' engagement and activities including interactions between trainees, between trainees and instructor, and between trainees and the content. Your data will remain anonymous. The purpose of collecting data is to improve the teaching and learning activities in each phase of the START Training Program. Participation is this study is voluntary and you can opt-out of the research at any stage. Regardless whether you choose to participate in this study or not, you can still enrol in the START Program to improve your ICT Skills which enhances your opportunities for employment or to enable you to establish your own online business.	**Do you want to improve your Computer and English Skills that are needed for employment?** **Do you want to establish your own small business with minimum resources?** **Do you want to know how you can market your goods and services online?** **Do you wish to be trained in how to produce marketing advertisements and distribute them online?** **Do you wish to have your own website in which you can market your goods and services?** **We help you how to write your CV and search for positions you are interested in** **START Helps you to establish your own small business and have your business name & number registered** **We teach you how you can keep records of your sales and expenses and measuring income and loses** **We empower you to have your own business website where you can market your goods and services**	**Online** via the project website www.domainname.net/join **SMS** --Researcher Mobile Number-- contains - I would like to participate in START Project - I wish to participate /not to participate in Data Collection Full Name

Appendix F: EoI Questionnaire and Consent Form

Smart Teaching for Arabic Residents on Technology (START)

Smart Teaching for Arabic Residents on Technology (START) is a training program that aims to enhance the opportunities for Arabic residents in Adelaide to secure employment or establish and run their own online businesses via providing computer (Information & Communication Technologies ICT) trainings bi-lingually in Arabic and English. It is likely that this bi-lingual ICT training will also improve your English skills.

During this START Training, data will be collected about your engagement and activities including interactions with others and between trainees and the content. Your identified data will remain anonymous. The purpose of collecting data is to improve the teaching and learning activities in each phase of the START Training Program. Participation is this study is voluntary and you can opt-out of the research at any stage of the START Program. Regardless whether you choose to participate in this study or not, you can still enrol in the START Program designed to improve your ICT Skills and to enhance your opportunities for employment or to enable you to establish your own online business.

I have read the information sheet carefully, and would like to participate in the

☐ Smart Teaching for Arabic Residents on Technology (START) Training Program – and I have Work Rights in Australia.
Please tick this box if you would like to express your interest to participate in START Program

☐ Data Collection about engagement and activities in the START Training Program
Please tick this box if you would like that data is to be collected about your engagement and activities in START Program

Full Name _____ Mobile _____ Date _____
Please add your name | Please add Mobile | Please add the date of today

Note: Please return this Consent Form & Expression of Interest in START to Dr Amelie Hanna (PhD)

Appendix G: Initial Skills Assessment semi-Structured Interview

This semi-Structured Interview Guide will be completed during the conversation with the potential trainee

Full Name	
Year of Birth	
Can you read and understand this paragraph (in English)?	
What is/are your education or your qualifications?	
Explain your work experience or nature of role duties	
What skills, including ICT, have you gained over career life and personal life?	
What are your hobbies that can be turned into a business?	
What are your interests or things you love to do?	
How do you see yourself in the next couple of years in relation to your career?	
What kind of services / products that you can provide?	
Assessment To-be completed later	☐ Suitable for e-business ☐ Not suitable for e-business

Appendix H: Initial Practical Test for MS Word

Instructions: Trainees can choose the font type, size & colour, and structure & format they like – in 15 minutes

Before the MS Word Module

Trainees will be asked to write Short CV – including

Full Name & Contact Details

Education / Qualifications

Summary of Work Experience

Note: START Program Modules

There will be Initial Practical Tests for the remaining START Training Modules – including:

- Microsoft Excel
- Microsoft Access
- Microsoft Outlook
- Microsoft PowerPoint
- Website Design

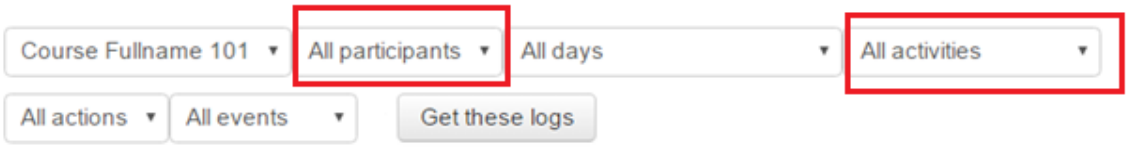
Appendix I: Observation Guide

Notes will be completed after the class

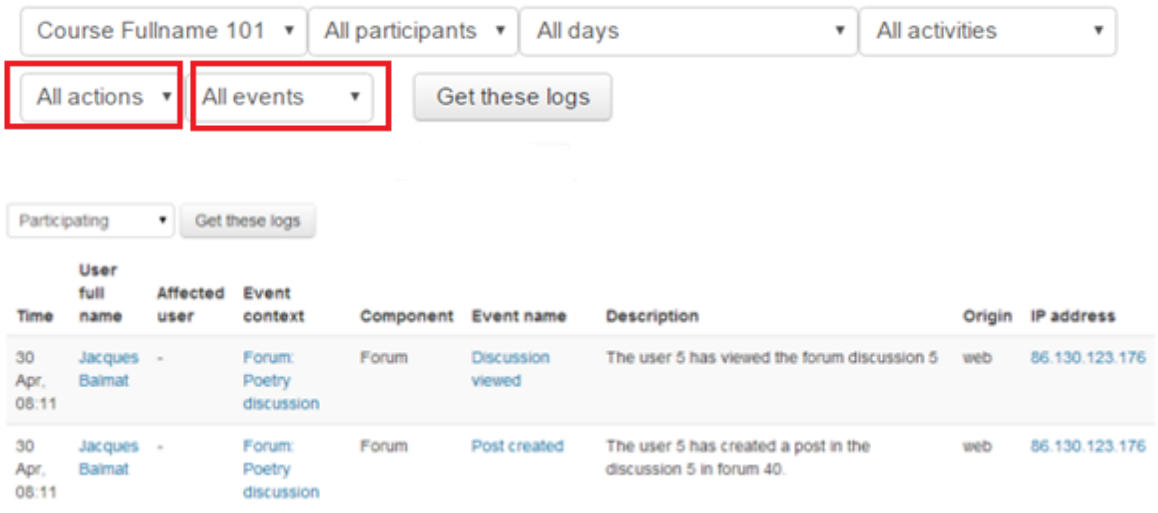
START Module	
Date	
Requested Activities	
Activities of most engagement	
Activities of least engagement	
Interactions between trainees	
Interactions between trainees and instructor	
Trainees feedback or questions	
Overall observation notes	

Appendix J: Moodle Log Analysis and Learning Analytics Guide

1) Course Activity Log: A log of activity will be generated by the researcher – through: *Administration> Course administration>Reports > Logs*. This option enables generating filtered reports that provide specific information about a particular activity and/or particular learner. Viewing all activities report generates a simple unfiltered report showing all activities in the course where it can be sorted by column header.



2) Filtering Logs by Levels: Beyond the ability to filter logs by *Teaching Level* (which enables the researcher to see her own activities such as adding a module to the course, grading a learner or creating a discussion forum), there is *Participation Level* which enables the researcher to know more about actions (view, add, update, delete) or events (such as group member added, role assigned, group created, course viewed, user logged in) that are related to learner's experience – such as submitting an assignment, submitting a post to a forum, or completing a quiz etc. This Course participation report provides an easy way to monitor general participation in the course. This report will be used especially with monitoring activity in forums - including whether students have read the forum postings, they have posted to the forum, and how many times. The log report page contains active links enabling the researcher to access a particular page that the learner was viewing. These logs can be downloaded as Excel file – which will be analysed accordingly.



3) Activity completion log report is needed to be enabled in the settings of the Course Management. This log reports a list of all learners and shows whether or not they have completed activities.

4) Learning Analytics provide pictures about a number of variables such as login frequency, time spent in the system, number of downloads, number of performed exercises, interaction with peers, and number of forum posts.

Source: Mwalumbwe, I., & Mtebe, J. S. (2017). Using learning analytics to predict students' performance in Moodle learning management system: A case of Mbeya University of Science and Technology. *Electronic Journal of Information Systems in Developing Countries, 79*(1), 1-13.

The researcher will use the different logs and LA reports to explore the online behaviour for the START Program learners, such as:

- Frequency of logins
- Number of total visits for each ICT core components
- Time spent in active engagement in learning activities
- Established communications candidate-instructor and candidate-candidate
- Visits to external links, in response to the teaching activity
- Identification of resources used such as glossary
- Views of audio or video.

Appendix K: Final Practical Test for MS Word

Word Processing Practical Test

Instructions: Trainees can choose the font type, size & colour, and structure & format they like – in 60 minutes

After the MS Word Module

Trainees will be asked to write Cover Letter and Long CV – including

Full Name & Contact Details

Education / Qualifications

Detailed Work Experience – including Role Duties & Responsibilities

Professional Skills

Referee Details

Note: START Program Modules

There will be Final Practical Tests for the remaining START Training Modules – including:

- Microsoft Excel
- Microsoft Access
- Microsoft Outlook
- Microsoft PowerPoint
- Website Design

Appendix L: Feedback Focus Group Guide

Location: Lounge opposite to computer room
Time: 90 – 120 minutes → after the practical test at the end of each module
Catering: Coffee, tea, milk, sugar, sweetener, cups, etc
Materials: Distributed below questions sheet and pencils (to ensure focus, enable notes and brainstorm – these questions act as an agenda for the discussion), audio-recording device, and white board & markers
Opening: introduction about the purpose of the group discussion (gathering opinions about the module and reasons of their views and how the module can be improved) and rules of the discussion. Participation is in Arabic. Informing participants that the discussion is audio-recorded and notes will be taken by the researcher. Informing the participants about the importance of their participation – and the importance to stay focused within the timeframe allocated to each question. The distributed sheets of questions are not required to be handed to the researcher unless a trainee would like to leave the discussion early.
Moderation: Each participant will have the opportunity to answer the question within the timeframe.
Closing: Summarizing the discussion, encouraging final comments, and thank participants.

Discussion Agenda
Opening & Introduction: Purpose, rules, and process (10 minutes) **Discussion Questions (70 – 100 minutes)** **List 3 lessons you gained from participating in this module? [ice-breaking]** **10 – 15 minutes** 1) ---------- 2) ---------- 3) ----------
What are the aspects that you think are missing from this module? In other words, what did you expect to learn from this module and you did not get? **15 – 20 minutes**
Brainstorming: What and How

What are the activities that you found of least engaging? **20 – 25 minutes**	**How these activities can be improved to be more engaging?** **25 – 40 minutes**

Conclusion & Ending (10 minutes): Final comments and summary.

Appendix M: End-of-START Feedback Survey

It is too early to list the questions of the survey. An amendment to the Research Ethics Approval will be submitted to provide further details about this stage. However, beyond the demographic information (age, gender, education level), as well as years of experience, years of residency in Australia, length of unemployment, there will be questions about the learning and teaching experience – including:

Course Contents
LMS Learner-Content Interactions
Individual Participation
Group Work
Motivations
Bi-lingual teaching approach
Participation in Online Forum Discussions
Instructor Engagement
Frequency of Feedback
Course Structure (Syllabus)
Classroom Discussion
Self-Learning Activities
Media / News Analysis
Assessment
Project Set-Up Support
Achievement (grade/score based)
Problem-Solving / Critical Thinking Skills (analysis, reasoning & innovation)
Lifelong Skills
Collaboration Skills (in-class)
Networking Skills (beyond-class)
English Skills
ICT Skills
Business Skills
Cultural Awareness
e-Business as project output

Appendix N: End-of-START Follow-Up Interview Guide

It is too early to list the interview questions. An amendment to the Research Ethics Approval will be submitted to provide further details about this stage. In this stage, the researcher will request further insight on the responses received via the final survey.

Employment

Any gainful employment?

Any Interviews? How they went?

Networking

Job search

Job Applications

Thinking of e-Business

Feedback on the START Project

Areas of START Training strengths and weaknesses

e-Business

Any success? Reasons

Any failure? Reasons

How to manage an e-business?

e-Business expansion

Marketing

Shopping cart and managing orders

Feedback on the START Project

Areas of START Training strengths and weaknesses

Appendix O: Research Publication Plan

Paper (1): Smart Training for Arabic Residents on Technology (SMART)

This paper aims to highlight the unemployment issue of Arabic-speaking residents in Australia and the proposed solution to this issue (out of literature review and research proposal).

Paper (2): Profiling unemployed Arabic-speaking residents in Adelaide

This paper will report data analysis and findings from the Skills Assessment Semi-Structured Interview.

Paper (3): Engagement in SMART Training Program

This paper will report data analysis and findings from the Guided Observation (a separate paper can report data analysis and findings from each SMART Training modules).

Paper (4): Behind the scene: Interactions within START Moodle LMS

This paper will report data analysis and findings from the Moodle log data analysis (a separate paper can report data analysis and findings from each SMART Training modules).

Paper (5): Have START Training Program improved the trainees' ICT skills?

This paper will report data analysis and findings from the Initial Practical Test and Final Practical ICT Tests (a separate paper can report data analysis and findings from each SMART Training modules).

Paper (6): Brainstorming thoughts of START participants to improve START Training

This paper will report data analysis and findings from the Feedback Focus Groups, who provided their feedback to improve START Project (a separate paper can report data analysis and findings from each SMART Training modules).

Paper (7): A bigger picture on START Training Program

This paper will report data analysis and findings from the Feedback Survey.

Paper (8): Voices of participants in START Training Program

This paper will report data analysis and findings from the Final Follow Up Interview.

Paper (9): START Project: Challenges & Recommendations

This paper will report data analysis and findings from the different methods used during this research. It provides a general discussion to understand the challenges that START Project faced, and the recommendation for future implementation on a larger scale.

Appendix P: Hosting Organisation Permission for START

From: markos02@mail.com <markos02@mail.com>
Sent: Tuesday, 30 July 2019 7:14 PM
To: Amelie Hanna <Amelie.Hanna@outlook.com.au>

Hello Amelie

I agree, when is the best time for you to come to discuss it?

Abouna

Sent from my iPhone

From: Amelie Hanna <Amelie.Hanna@outlook.com.au>
Sent: Friday, 26 July 2019 6:13 PM
To: Philippos Boghdadi <markos02@mail.com>

Dear Fr Phillippos Boghdadi,

I wish this email finds you well.

As you know, I am currently doing another doctorate degree in Flinders University: my project is about teaching refugees from Middle East the ICT Skills bilingually. […]. If you are interested to host/sponsor this project, I will be happy to meet with you to discuss the details.

I look forward to hear from you

Thank you
Kind regards

Amelie Hanna
Mob: 0404 131312