

Investigating the Impact of Internationally Acquired Qualifications on Labour Market Performance: The Case of Brazil

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Abstract: *The aim of this study is to examine the labour market performance of Brazilian students who have acquired international qualifications in the areas of engineering and science. A comprehensive analysis of the literature review demonstrates the importance of international qualifications covering both their benefits and challenges. The gaps found in the literature review are also discussed, as well as the need for a more concrete theoretical framework about the subject. The data used in this research was gathered by semi-structured one-to-one interviews conducted in both person and through telephone. The participants consisted of Brazilian students who have acquired international qualifications and have gone back to Brazil to enter in the job market there. It was possible to successfully answer the two main research questions being discussed using the data collected. It was found that international qualifications affect students in many important ways including learning and improving their foreign language skills and through exchanging culture with different nationalities. Also, international qualifications present a good way to enhance noticeability within the labour market and make it easier to get a job. However, the difficulties in getting international qualification recognised once returning to Brazil presents a challenge or a barrier for these students.*

Keywords: *International Qualifications; Brazil; Labour Market Performance;*

Date of Submission: 02-06-2018

Date of acceptance: 18-06-2018

I. Introduction

I.I Brazil

According to World Bank data from 2016, Brazil is the world's eighth largest economy with a Gross Domestic Product (GDP) of US\$1.796 trillion. Brazil has natural resources (e.g. iron ore) and high levels of agricultural production (e.g. soya, coffee and sugar), all of which are important to the world economy (Walker 2014). In addition, in 2014 Brazil recorded a population of approximately 203 million inhabitants with an unemployment rate of 11% nowadays and 5% in 2013 aprox. (World Bank 2014) (IBGE 2017).

Despite these positive figures, Brazil has suffered from a lack of qualified workers mainly in specialised areas such as engineering and science (IPEA 2012). Many surveys and publications within the Brazil's labour market recommend about 40.000 engineers, 54,000 doctors and 117.000 IT professionals, with these figures being a characteristic of a developing country (IPEA 2012) (Exame 2013) (Fagundes 2013) (Simas 2012) (Salerno et al 2013) (Barrucho 2014). The OECD suggests that more should be done in Brazil to provide training both through the education system and by employers themselves to improve the supply of skills required in the labour market (OECD 2015).

It is therefore extremely important for those seeking employment to obtain competitive qualifications which reflect the changes in the Brazilian labour market. Considering the recent technological advancements encouraged by the globalisation process, Brazil needs qualified employees in its labour market to meet the demands that globalisation imposes on the world.

Furthermore, along with developments in technology, internationalisation is one of the predominant trends in present-day society, impacting citizens worldwide and therefore affecting employees, employers and companies in general (Vestager 2000). The current climate of Brazil's economy underscores the aims set out to be analysed in this project.

I.II The Catalyst for Research

Today many schools and universities in Brazil and around the world have initiated international activities which are becoming increasingly important both for the schools and universities themselves. These activities, influenced by increasing globalisation, have been further developed in the past few years. Information

about foreign countries, international studies, cultural differences and contact with other countries have become everyday elements, especially in big cities.

Most students view an international education to be more prestigious than a domestic education and recognise it to be more beneficial in relation to societal status and labour market opportunities, including opportunities of achieving better jobs and higher income (Waters 2006, cited by Manjunath 2014). International education and study abroad experiences are considered to be a multibillion-dollar industry which is driven by high demand and intense competition. At the moment, there is a huge number of Brazilian students overseas seeking international degrees in various different levels, mainly in English speaking countries.

According to a survey conducted by BELTA (Brazilian Educational & Language Travel Association) together with Canada's General Consulate (2014), Canada is a preferred choice of destination for Brazilian students because it offers a multicultural environment, is a safe country, has a lower cost-versus-benefits factor compared with other countries, and offers a high quality level of education. In 2013, 68 study abroad agencies sent approximately 5,000 Brazilian students to Canada, the most of them 18 to 30 years old. After Canada, the second most popular country for Brazilian students seeking international study experience is USA, while the UK ranks third (Fundação Estudar 2014).

BELTA's survey highlights the importance of costs in relation to undergraduate and graduate levels of study. For example, in Canada the total cost of an undergraduate course (including accommodation and all fees) is about R\$23,000 (Brazilian Reais) to R\$50,000 per year. Costs in the USA average R\$25,000 to R\$60,000, while UK costs are between R\$37,000 to R\$60,000 per year (Fundação Estudar 2014).

On the other hand, CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) states that USA is the country with the most Brazilian scholars, recording in 2016 the presence of 6,6064 skilled migrants, accounting for 30.3% of total skilled migrants funded by CAPES. This was followed by the France with Brazilian skilled migrants representing 20.7% of total qualified foreigners funded, and subsequently Germany (13%), Ireland (9.1%), Portugal (7.7%), United Kingdom (5.3%), Italy (3%), Spain (2.4%), Canada (1.8%) and Sweden (1.3%) GEOCAPES (2018).

This research is aimed at understanding the labour market performance of Brazilian students who acquired international qualifications at an undergraduate level in areas of engineering and science. Therefore, the preceding information is very important to understand and know more about the profile of Brazilian students who have studied abroad.

II. The Research Objectives

To achieve a significant result, it was necessary to follow these specific objectives:

- a) Using Brazil as a case study, analyse the performance of students who have acquired international qualifications in engineering and science within the labour market.
- b) Examine the importance of international qualifications for Brazilian students in areas of engineering and science within the labour market in Brazil.

To accomplish these specific objectives, a literature review was used to understand and prove the importance of international qualifications for students through the existent literature.

To measure the labour market performance and also examine the importance of international qualifications, semi-structured interviews were conducted with eight Brazilian students who fully completed their undergraduate degree in the fields of science and engineering outside Brazil and returned there to attempt to enter the labour market. The students reported their experiences during the interviews that were then analysed and evaluated.

III.1 Research Design

Research began with a comprehensive analysis of the available literature on international qualifications and their aspects. The literature was also examined to find gaps in the knowledge component and to generate research objectives or questions, research methods and identify the sample populations for the purpose of this study.

The research was conducted in two phases. The initial phase was carried out by way of literature review. The purpose of this phase was to determine the context of this study and to justify the research. The literature review explored areas such as international qualifications, and Brazil's labour market in fields of engineering and science. The second phase of the investigation involved primary research which was qualitative in nature. It involved semi-structured interviews, conducted both face-to-face and over the telephone, with eight Brazilian students that who have acquired international qualifications and have gone back to Brazil to seek employment. The main aim of these interviews was to elicit their opinions on the impact of international qualifications on their careers. The sample is sufficiently representative for the purpose of this research which is enable this study to be replicated in future.

III. Literature Review

III.I The General Context

As economic globalisation gathers pace, more and more companies and jobs will involve activities with an international dimension (Wordelmann 2000). Consequently, employees need to acquire new knowledge and competencies to face these changes mainly through acquiring new skills and qualifications.

There is no way to discuss internationalisation without describing the term “globalisation”. However, there is a large amount of available literature explaining this phenomenon. While some consider globalisation to be exploitation, others view it as an opportunity (Bhaqwati 2007, Marsella 2012). In addition, some talk about globalisation of capital, while others consider globalisation to be the import and export of ideas (Prilleltesnky 2012). Despite these variations, most agree that although globalisation is demarcated by different elements and consequences, in essence it is primarily about the exchange of people, products and processes across the globe (Stiglitz 2007). Therefore, the globalisation phenomenon has effects on the social, cultural, economic and political trends of a nation.

While globalisation typically refers to the broad economic, technological, and scientific trends that directly affect education and are largely inevitable in the contemporary world (Altbach, 2006), internationalisation has more to do with the specific policies and programs undertaken by governments, academic systems and institutions, and even individual departments to deal with globalisation (Altbach, 2006).

Altbach, Reisberg and Rumbley (2009) state that globalisation has already deeply influenced education. They define globalisation as the reality shaped by an increasingly integrated world economy, new information and communications technology, the emergence of an international knowledge network, the role of the English language, and other forces beyond the control of academic institutions (Altbach *et al.* 2009). They define internationalisation as the variety of policies and programs that universities and governments implement to respond to globalisation. Typically, that response includes sending students to study abroad, setting up a branch campus overseas, or engaging in some type of inter-institutional partnership (Altbach *et al.* 2009). In addition, Risager (2000) states that internationalisation is a form of defence against the threat of globalisation. To summarise, internationalisation has been considered in many ways as a necessary “process of integrating an international, intercultural, or global dimension in the purpose, functions, or delivery of postsecondary education” (Knight 2003 p.2). This process consists largely of two main spheres of action, commonly characterized as ‘internationalisation at home’ and ‘internationalisation abroad’ (Knight 2004).

Explaining the concept of internationalisation at home consists of strategies and approaches designed to introduce an international dimension into the home campus experience. This might consist of including global and comparative perspectives in the curriculum or recruiting international students, scholars, and faculty and leveraging their presence on campus (Altbach *et al.* 2009). In contrast, internationalisation abroad calls for an institution to project itself and its stakeholders out in the world (Altbach *et al.* 2009). This includes sending students to study abroad, setting up a branch campus overseas, or engaging in an inter-institutional partnership. In this project, we sought to study and explain internationalisation abroad and its benefits for students that have gone back to Brazil to work in its labour market.

In addition, beyond the concepts of internationalisation and globalisation, a variety of other terms are used in the course of this study, such as the international dimension, international education, international qualification, international programming, international and/or inter-institutional cooperation, international partnerships, cross-border education, borderless education, and regionalisation. The varied terminology refers to the breadth of experiences in this area and to the distinctive approaches to internationalisation taken by different levels of education systems and institutions around the world (Altbach *et al.* 2009). Therefore, all of these terms are inextricably linked, acting together to thoroughly explain concepts within internationalisation and globalisation.

III.II Qualifications

To understand the meaning and the importance of international qualifications, it is essential to start with the basic term ‘qualification’ and how it can be understood and described. The EQF (European Qualifications Framework) states that a qualification is “a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to a given standard” (European Parliament; Council of the European Union, 2008). CEDEFOP (European Centre for the Development of Vocational Training) defined the term qualification in this broad way: “the term qualification helps to clarify what can be considered as the separate building blocks of a qualification: learning outcomes; assessment and validation process; need for standards; recognition process and the role of competent bodies” (CEDEFOP 2012 p. 8).

III.III International Qualifications

According to Wordelmann (2000), international qualifications are essential to enable workers and employees. In general, employees might need foreign languages at their place of work, but we also know that knowledge of foreign languages alone does not suffice. CEDEFOP (2000, p. 75) states that “international qualifications may be systematically divided into three ‘original’ dimensions: A) excellent professional competence as a prerequisite for international professional activity, B) foreign language skills and C) intercultural competence” (CEDEFOP 2000, p. 75). These dimensions are focused into professionalization and education. In relation to education and its aspects, we can consider acquisition of foreign languages and intercultural competences or cross-cultural competences as the main dimensions. Furthermore, all of the dimensions should be part of a comprehensive concept of qualification for international activities and should not by any means be reduced to foreign language skills (Wordelmann 2000).

The Federal Institute for Vocational Training (BIBB) highlights that the concept of international qualifications is useful for many enterprises in the early stages of internationalisation. In addition, this concept can be broadened by means of a new concept that one could refer to as “network competence”. This term encompasses consequences of dynamic developments at the workplace, including the possibilities offered by a variety of communication technologies, in particular the internet as the principal cross-border method (BIBB 2001).

Knowledge of a foreign language is indispensable for occupational activity in an international context; however, opportunities do exist to study abroad using the same language; Brazilian students can study in Portugal using their native language. Language is not the only benefit acquired during the process of acquiring international qualifications. Though research has consistently shown that the foreign language predominantly needed is English, companies have done little to encourage the acquisition of a second language skills according to the skilled workers and employees questioned (Wordelmann 2000). English, spoken in 110 countries, is the most popular language around the world, and there are 1,500 billion additional learners across the globe (Lopez 2015).

According to many researchers, learning a foreign language is beneficial for students. It helps them understand general grammar better and improves their overall communication and problem-solving skills. Beyond the intellectual benefits, knowledge of a foreign language facilitates travel, enhances career opportunities, and enables one to learn more about different peoples and cultures (National Research Council 2007). In a survey of 581 alumni of The American Graduate School of International Management in Glendale, Arizona, most respondents said they had gained a competitive advantage from their knowledge of foreign languages and other cultures within the labour market (Grosse 2004). Knowledge of a second language is not only necessary for communication with foreign business partners, but also represents a social obligation in establishing communication with foreign friends and colleagues (Wordelmann 2000).

To understand intercultural or cross-cultural dimensions, there is a need to define culture. French (2010, p.24) states that “culture is often conceptualised as being closely linked with attitudes and values which are first learned and subsequently manifested by member of a group”. In addition, “the knowledge, languages, values, customs and material objects that are passed from person to person and from one generation to another in a human group or society” (Bratton *et al.* 2007, p.523).

Intercultural competence ranges from coping while travelling abroad and general cultural curiosity, to a high level of negotiating skills in a foreign situation using a foreign language. This includes the capacity to communicate and cooperate with foreign partners, colleagues, and customers at a shared level. Intercultural competence also encompasses knowledge of foreign cultures and of foreign markets including ways of life, customs, habits, values, mentalities, behaviour, etc. (BIBB 2001). In practice, a knowledge of foreign languages, intercultural competences and the ability to adapt rapid changes generated by intercultural competences are essential and taken for granted within today’s labour market (Wordelmann 2000).

According to the BIBB (2001), companies expect foreign language abilities and intercultural skills, along with outstanding specialised knowledge from their skilled staff working in the international and local sphere. These are seen to be holistic qualifications, encompassing economic, organisational, and technology-related skills. Employees also require a certain psychological and physical fortitude for extended stays abroad. Also, management and social policy skills are inherent in the application of intercultural skills in the sense that culturally related conflicts can be resolved through intercultural learning, both within the company and externally (BIBB 2001).

III.IV The Challenges of International Qualifications

The CEDEFOP’s (2012) booklet establishes a basis for better understanding the function and value of international qualifications and provides concrete examples (cases) of international and non-state qualifications with the purpose of developing a conceptual framework which can help identify and classify international qualifications. There are some obstacles for the acknowledgement of qualifications received in international

settings when operating on the basis of their merit outside national. Some of these obstacles are outlined in the table below:

Table I – Particular Challenges of International Qualifications 2012

Particular Challenges of International Qualifications
The sector and level of the degree must be precisely outlined in order to be understood across national and sectoral borders.
The assessment procedures employed to achieve the degree must be demonstrably reliable and valid. Quality standards in this area reflect a need for transparent and trustworthy procedures and processes.
The degree must be based on standards reflecting relevant stakeholders' needs. The education process might require initial development and continuous review based on the active contributions of those stakeholders.
The formal recognition of the qualifications should potentially cite various sources of legitimacy. In some cases, international law allows legitimacy, as in the automatic recognition of qualifications earned in the EU within the EU internal market. In other cases, the legitimacy of a qualification will reflect market position and power of the country in which it was earned.
Even at domestic level, a wide variety of bodies may award a qualification on behalf of state authorities. This variety increases further when taking into account the many countries awarding international qualifications. Awarding institutions include a wide range of public and private bodies, international organisations, sectoral bodies and associations as well as private companies. While the definition of a qualification helps us to understand some of the similarities and differences between national and international qualifications, a systematic review of qualifications developing outside of the control of domestic bodies is currently lacking. While this partly reflects the fact that international education to achieve qualifications is fairly recent, it is even more highly affected by the wide variety of stakeholders involved in awarding and approving qualifications.

(Adapted from CEDEFOP 2012 p. 10)

These elements are pertinent to the EU (European Union), although they represent very similar challenges to those that international qualifications face in Brazil at the moment. The most salient challenge in Brazil relates to the recognition of international qualifications, because the process is very bureaucratic, slow and expensive as experienced by many Brazilian students. Currently, for an international qualification to be recognised in Brazil and have domestic validity, the undergraduate degree must be revalidated by a Brazilian public university that has the same or similar course and be recognised by the government. According to the Ministry of Education Brazil, 2015, this process is as follows:

The process begins by presenting a revalidation request to a public institution of higher education in Brazil. According to regulations, only public universities can revalidate diplomas being recognised as "competent to process and grant the revalidation of graduate diplomas in public universities that teach courses in the same field of knowledge or a related field and the same level of degree" (Article. 3^o Resolution. 1^o - 29th January 2002).

1. A copy of the applicant's diploma must be presented to be revalidated, accompanied by documents relating to the institution of origin, duration and course curriculum, syllabus, bibliography and transcripts.
2. The student must pay a fee for the cost of administrative expenses. The fee is not set by the National Council on Education and therefore may vary from institution to institution.
3. To judge the equivalence of the diploma, a special commission is formed, comprised of professors from the university or other establishments that have compatible skills with the area of knowledge and the title level to be revalidated.
4. If there is doubt as to the similarity of the course, the commission may decide to carry out examinations and exams (performed in English) in order to fully determine the equivalence.
5. The applicant may also perform further studies if the committee determines that the international course does not fulfil the minimum requirements for equivalence.
6. For the judgement of equivalence to be valid, the university must reach a decision on the revalidation application within 6 months of the application date.

Brazil does not have any mechanism in place for automatic recognition of certain qualifications. Diplomas and transcripts must be notarised in the Brazilian consulates where the studies were conducted (translated by the author from the Ministry of Education Brazil, 2015).

III.V International Qualifications in Brazil

International qualifications are a new and controversial subject of discussion in Brazil because the number of Brazilians studying abroad has increased significantly. In 2002, CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) awarded only 287 scholarships for undergraduate students to study abroad, while in 2012 the number increased to 1,473. This has put the issues related to international qualifications and their aspects into the forefront of discussion (Geo Capes 2015).

As the world's eighth wealthiest economy, the strong vitality of the economy and industry of Brazil has led to a significant increase in demand for highly qualified workers to be inserted in its productive system (WorldBank 2015). In response to this, central authorities have implemented several programs to raise the level of skilled labour force necessary to meet the development needs of the country (Giordano and Pagano 2013). A large number of the programs that have been implemented are fulfilled using foreign study programs and therefore call into question the problem of domestic acceptance of international qualifications.

According OECD (2015), a country should aid in the development of relevant skills by encouraging and enabling people to learn throughout life, including fostering international mobility of skilled people to fill skills gaps and promoting cross-border skills policies. Brazil is seeking to meet this prescription and is filling gaps in domestic education programs through programs abroad in all levels of education.

The most popular of these programs is called "Science without Borders". This program seeks to promote the consolidation, expansion and internationalisation of science and technology, innovation and competitiveness of Brazil through the exchange and international mobility of Brazilian students, thus in 2016 the the program promoted an international mobility of 10.593 undergraduate students (Science Without Borders 2015)(GEOCAPES 2018). The program expected to see 64,000 students studying around the world by 2018. It is clear that the purpose of Brazil's central authorities is to increase the quantity of qualified human capital in the country, but at the same time it must be focused on the quality of these skilled human resources, as well.

The recognition of international qualifications is a pertinent situation which Brazil must face; one of the most pressing issues for participants in these studies abroad programs is in relation to the recognition of the certificates or the disciplines studied overseas. There have been various estimates put forth on the number of human resources that the country will need in the near future. Giordano and Pagano state:

‘The school and university systems are currently unable to train qualified personnel capable of responding to the skills and know-how needs of the local economic, industrial and scientific systems. Despite the increasing number of graduates, the Brazilian economy is growing at a faster velocity.’ (Giordano and Pagano, 2013 p. 27)

Brazil must change and develop new policies on international qualifications to meet the demand of students who have studied abroad and have returned to Brazil to work within its labour market. There are many qualified students who have achieved international degrees waiting for the recognition of their certificates in order to begin work in Brazil. In 2012, The Federal University of Minas Gerais (UFMG) and The Federal University of Mato Grosso (UFMT) received 292 and 705 applications respectively to recognise medical certificates acquired abroad. In 2012, the quantity of those applications increased to 1,036 and 840 respectively (Moreno 2014). These numbers are set to increase due to influence from the globalisation phenomenon and its aspects.

IV. Limitations and Gaps in The Existing Research

In Brazil, there have been very few research studies made into international qualifications and their aspects, including their dimensions, benefits and concepts. Studies have tended to solely encompass information about recognition, and the process of how to work through the qualification.

The existing research about international qualifications gives valuable understanding on the main important aspects and benefits of foreign study, such as the acquisition of foreign languages and cross-cultural or intercultural competences. The professional competence of employees that work abroad who have a history of studying abroad has also been studied. However, the literature has a number of shortcomings which are substantially significant. A throughout analysis of the existing literature found that there is no indication or studies examining the point of view of students which have acquired international qualifications on the process of internationalisation and its benefits. There are further research gaps regarding the performance of those who acquire international qualifications within the labour market. There is no insight into issues related to getting a job, or the pros and cons of acquiring an international qualification.

This study attempts to clarify those shortcomings and fill the gaps through semi-structured interviews and their analysis. Since there is no publication on this theme available yet in Brazil, this study may be

considered the first study researching international qualifications and their benefits within the Brazilian labour market.

V. Methodology and Research Design

V.I Methodology

Part of the research was carried out by way of a literature review. This phase is important to demonstrate, explain and evaluate the current existent literature about the theme of the article. Furthermore, through this review, one may compare and contrast the previous research in this area. Further study beyond the literature was necessary to fulfil the goals of this research. This was undertaken in the form of qualitative research. Qualitative research is a broad term that covers a wide range of techniques and philosophies. In simple terms, a qualitative research method can be defined as an approach that allows a researcher to examine people's experiences in detail by using specific research methods such as in-depth interviews, focus groups, observation, content analysis, life histories or biographies (Hennink et al. 2010).

V.II The Interview

Official participants for the interviews were initially contacted using social media. Announcements were posted in group or community pages on social media forums such as Facebook and LinkedIn. Contact was made with universities and private colleges in Brazil and in a few other countries. Any participants who were contacted through personal means were selected according to the interview's profile rules.

The conditions that were set during the selection of the participants were:

- a. The participants must be Brazilian citizens and must have lived in and undergone a part of their education in Brazil.
- b. The participants must have concluded an undergraduate course in the field of science or engineering outside of Brazil.
- c. The participants must have acquired an international qualification at the undergraduate level in the areas of science or engineering.
- d. The participants must have returned to Brazil and must be actively pursuing their career there.

For this research study, data was mainly collected by way of interviews. Interviews are a very useful form of conducting qualitative research because they yield data that is rich and detailed (Bryman 2006). The use of interviews allows the researchers to explore understand the views, attitudes, perceptions, values and feelings of the interviewees and helps them to bring out their version of the situation (Bryman 2006). Additionally, an added benefit is that the researcher can clarify the meaning of their version of the situation and in many cases can also prompt for more information that could be very valuable for the research (Wellington 2000).

Interviews also have a weakness that should be considered. For example, interviews generally are lengthy, and transcribing and analysis can be a very time-consuming procedure (Manjunath 2014). In addition, some researchers argue that interviewees may under-report situations that might potentially put them in bad light (Bryman 2006).

For the purpose of this research, a face-to-face, in depth, semi-structured interview was conducted with the participants. Although there are alternate formats that may be used, for example via phone and through the internet, a face-to-face approach was adopted to develop a rapport with the participants, and to ensure no drawbacks while collecting data. Individual interviews were used to ensure an in-depth understanding of the interviewee's personal point of view that would not have been possible during a group interview (Bryman 2006).

The interviews were conducted through performing semi-structured interviews over video conferencing with eight Brazilians that had completed an undergraduate degree in the fields of science and engineering in a foreign country. After having acquired these international qualifications, the interviewees had returned to Brazil to attempt to enter the labour market. The main aim of the interview was to elicit the students' opinions on the importance of international qualifications, the positives and negatives of their experiences, and their performance within Brazil's labour market.

Most of the interviews were conducted via the internet video-messaging service, Skype. Using the program, the video conversation was recorded and transcribed with the names of participants being kept confidential. These transcripts are restricted to use for the purpose of analysis by this study and will not be shared with anyone else; the recording will not be used for any other purposes. All interviews were conducted individually. The date and time of the interview was prearranged with each interviewee and each interviewee attended their interview on time. There were no cancellations, postponements or rearrangements and all interviews went ahead as scheduled over two days, from the 26th to the 28th of June 2017. Prior to commencing the interview, each of the interviewees was informed of the researcher's contact details. Each interviewee was also informed of the procedures which would be followed and was asked to sign and date a consent form to

record that their consent was informed and freely given. These details of the interview included in the consent form were as follows:

The duration of the interview (interviewees were advised that the interview would take approximately 30 minutes to complete);

A statement of confidentially guaranteeing all information collected would be kept entirely confidential. Interviewees were informed that the research would not ask for any information that would allow identification of those participating in the interview. In addition, in the event of any publication or presentation resulting from the research, interviewees were informed that no personally identifiable information would be shared as their names would in no way be linked to the research;

The right to ask questions or raise concerns related to the study at any time;

The right to voluntarily participate, which included interviewees being informed of their right to stop or withdraw from the interview any time. Each interviewee was informed that they did not have to answer any question they did not want to answer;

A statement that participants must be 18 years old or older to participate in the study.

All interviewees were informed that all information would be stored in a password-encrypted computer. For the purpose of analysing and transcribing the data collected during the course of the interviews, each interviewee was asked for their permission to have the interview audio recorded through use of a Dictaphone. All eight interviewees gave their permission to be recorded during their interview. After all of the interviews were concluded, the audio data generated by the Dictaphone was transcribed by the researcher. The Dictaphone was tested before use. The researcher also took notes during the interview in the event that a technical difficulty might arise relating to the retrieval of the audio data collected.

The interview questions were formulated to obtain the personal points of view and perspectives of the interviewees along with their experiences as was necessary to develop the research theories. The interview was written to avoid providing leading questions, allowing discussion but intervening to encourage deeper explanations and curtail tangents. Probing questions were utilised and resulted in an elicitation of the participants' experiences. The interviews were allowed to occur organically, and the participants gave their opinions freely.

The interview scripts were divided into four parts as follows: 1) The participant's overview regarding the main topic of the study; 2) the participant's personal perceptions 3) the participant's views on international qualifications and their aspects; 4) their views of their experiences within the labour market in Brazil.

The direction and flow of the interview varied from interviewee to interviewee, as each interviewee perceived his/her experience differently. In order to ensure confidentiality, each interviewee was named in relation where they completed their undergraduate studies, as each student studied in a different country. For example, participant one completed his undergraduate studies in Ireland, and is identified as 'Ireland' within the study.

Convenient and opportunist sampling were used to build this sample set. Convenience sampling refers to the selection of a sample that is easily accessible to the researcher, and opportunist sampling means selecting the sample of participants that appear during the process of conducting the research (Wellington 2000).

Throughout the research, confidentiality, anonymity was assured, and any identifying details were eliminated from the data. Given names were exchanged for the purpose of communication, however the names of the participants have been replaced in the interview transcripts to protect participant identity. The participants were made fully aware before research started that the data obtained would be solely used for research and would be treated with anonymity. The data would be stored securely and the right to access the data would rest only with the researcher.

After the completion of the process of data collection and the analysis of that data, the participants were contacted again, and were provided with a summary of the conclusion and findings

V.III Analysing Data

Analysing data acquired during qualitative research is challenging because the data is not straightforward and may be arranged in a complex form. However, this method also gives the researcher the flexibility to analyse and interpret the findings (Wellington 2000).

As qualitative research generates complex data, it requires a lot of effort to read, re-read, understand and reflect on the data throughout the process of analysing to make sense on the whole (Wellington 2000). Furthermore, data collection by means of questionnaires, interviews, diaries, etc. mean very little until they are analysed and evaluated (Bell 1993). Data analysis in this case study included analysing the semi-structured interviews with the eight Brazilians who had completed their undergraduate degree outside of Brazil.

Hitchcock and Hughes' recommendations comprised the important themes for consideration while processing and interpreting the interview data. The tape and transcripts were intimately studied alternating between descriptions and analysis. General units of meaning were isolated and were then related to the research

focus. Patterns were identified formed into themes. The way others made sense of their world was studied through their descriptions and reported actions. The subjects' classifications were also explored.

The main themes explored are as follows:

- a) The Main Challenge for International Qualifications.
- b) Labour Market Performance
- c) The Importance of International Qualifications

VI. Conclusion

Using Brazil as a case study, was analysed the performance of students who have acquired international qualifications in engineering and science within the labour market;

Seven of the eight students interviewed achieved good performance within the labour market in Brazil, despite having been unemployed between 7 to 20 months while waiting to have their certificates recognised. They were well noticed during the job seeking process, drawing the attention of companies through both their international qualifications and their competencies. In relation to salary, all of them are receiving a competitive salary and are happy with their salary level. In addition, they all started working at an entry level, with roles such as a trainee, junior management and doctor assistant.

On the other hand, one participant has not gotten a job related to his qualification because he did not get his certificate recognised through a public university despite having tried twice. He is currently working in a different field.

As well as, was examined the importance of international qualifications for Brazilian students in areas of engineering and science within the labour market in Brazil;

The importance of international qualification is broad and unmeasured. The most important aspects for the interviewees involved learning a foreign language and exchanging culture. This premise is complex, because the importance of international qualifications varies depending on the country of origin and destination, the fields of study, the economy of the country, the course type, the university attended, culture and values differences. All of the interviewees recommended studying abroad for an undergraduate course.

This article intends to contribute to the existing knowledge regarding international qualifications and their impacts within the labour market, in addition to their benefits and consequences for Brazilian students. Furthermore, this study provides an opportunity for further research in this domain.

Finally, this study was retrospective in nature; the students were interviewed after returning to Brazil and the time gap involved may have allowed the opportunity for memory issues to affect the recall of the participants who had made a decision to return to Brazil to look for employment.

The review of literature and the findings of the research presented a few interesting aspects for further research.

The subject of international qualifications is a broad theme that is a part of the global discussion. Within that expansive scope, there are many subjects to be considered and developed for further research. These include the proportion of the importance of the international qualifications in relation to their benefits for students and for the labour market, and also if the costs for acquiring an international qualification is correspondent with the benefits. The latter question is of course dependent on the foreign country of study. Finally, there is room for research on the process of achieving recognition of international certificates in relation to the country in which they were awarded.

Bibliography

- [1]. Altbach P., Reisberg L., Rumbley., L. (2009) Trends in Global Higher Education: Tracking an Academic Revolution, A Report Prepared for the UNESCO 2009 World Conference on Higher Education, Printed in France.
- [2]. Barrucho, L. (2014) Conheça dez áreas com escassez de mão de obra. Published [on line], available: http://www.bbc.co.uk/portuguese/noticias/2014/09/140903_salasocial_eleicoes2014_profissoes_escassez_lgb [accessed 01 Jun 2015]
- [3]. Branco, V. (2004) Os efeitos da globalização na economia: sua relação com o emprego, a educação e a família brasileira, Published [on line], available: <http://www.administradores.com.br/producao-academica/os-efeitos-da-globalizacao-na-economia-sua-relacao-com-o-emprego-a-educacao-e-a-familia-brasileira/3237/> [accessed 20 Nov 2014].
- [4]. Bryman, A. (2006) 'Integrating quantitative and qualitative research: How is it done?', *Qualitative research*, 6 (1), 97-113.
- [5]. CEDEFOP - European Centre for the Development of Vocational Training (2012) International Qualifications, Published [on line], available: file:///C:/Users/Charles%20Castro/Desktop/4116_en.pdf [accessed 16th June 2015].
- [6]. CEDEFOP – European Centre for the Development of Vocational Training (2000) Internationalising vocational education and training in Europe, Published by: CEDEFOP – European Centre for the Development of Vocational Training, ISBN 92-828-9448-7, Luxemburg.
- [7]. Davenport, Thomas ., (1999) *Human Capital* 1th ed. San Francisco: Jossey-Bass Publishers.
- [8]. European Commission (2015) Learning Opportunities and Qualifications in Europe, Published [on line], available: https://ec.europa.eu/ploteus/search/site?f%5B0%5D=im_field_entity_type%3A97 [accessed 02nd July 2015].
- [9]. Exame (2013) Falta de profissionais de TI se agravava no Brasil diz IDC, published [on line] available: <http://exame.abril.com.br/carreira/noticias/falta-de-profissionais-de-ti-se-agravava-no-brasil-diz-idc> [accessed 18 Jun 2015].

- [10]. Fagundes., E. (2013) Ministerio da Saude estima que Brasil tenha déficit de 54 mil médicos, published [on line] available: <http://oglobo.globo.com/brasil/ministerio-da-saude-estima-que-brasil-tenha-deficit-de-54-mil-medicos-8477395> [accessed 15 Jun 2015].
- [11]. French, R. (2007) *Cross-Cultural Management in Work Organisations*, 2nd ed., London: CIPD.
- [12]. Fundação Estudar (2014) Canada: por que o país é o preferido dos Brasileiros para intercâmbio?, published [on line] available: <http://www.estudarfora.org.br/canada-por-que-o-pais-e-o-preferido-dos-brasileiros-para-intercambio/> [accessed 01 Jun 2015].
- [13]. GEOCAPES (2015), [on line] available: <http://geocapes.capes.gov.br/geocapes2/> [accessed 07 Jan 2015].
- [14]. Giordano, A., Pagano, A. (2013) *Brazil in the Transition Towards Knowledge Economy: Between Qualification and Internationalization of Human Capital*, Published 15 March 2013.
- [15]. Gunnigle, P., Heraty, N. & Michael, M. (2002) *Human Resource Management in Ireland*, 2nd ed., Gill & Macmillan.
- [16]. Hennigan, T. (2015) A second home: The Brazilian influx to Irish universities, [on line] available: <http://www.irishtimes.com/news/education/a-second-home-the-brazilian-influx-to-irish-universities-1.2118797> [accessed 08 Jun 2015].
- [17]. Hennink M., Hutter, I. and Bailey, A. (2010) *Qualitative research methods*, Sage.
- [18]. Hitchcock, G. and Hughes, D. (1989) *Research and the Teacher: a qualitative introduction to school-based research*, London: Routledge.
- [19]. IBGE – Índice Brasileiro de Geografia e Estatísticas (2015) Índice Brasileiro de Geografia e Estatísticas, [on line] available: http://www.ibge.gov.br/home/mapa_site/mapa_site.php#economia [accessed 03th July 2015].
- [20]. IPEA – Instituto de Pesquisa Economica Aplicada (2012) RADAR: Tecnologia, producao e comercio exterior, [on line] available: http://www.ipea.gov.br/portal/images/stories/PDFs/radar/121217_radar23.pdf [accessed 03th July 2015].
- [21]. Kenny, S. (2009) “ A Pilot Study Investigating how International Students Experience School Life in a Secondary School in the West of Ireland”, unpublished thesis, (M.A), University of Limerick.
- [22]. Lopez, L. (2015) The World’s Most – Spoken Languages in a Single Infographic., Published [on line] available: <http://www.boredpanda.com/world-languages-infographic-design-alberto-lucas-lopez/> [accessed 16th June 2015].
- [23]. Manjunath, A. (2014) “Globalization of Education: The Psychology of Decision Making in Choosing Ireland as a Study Abroad Destination for Indian Post Graduate Students”, unpublished thesis, (M.A.), University of Limerick.
- [24]. Mario, L. (2014) Brazil Economists Increase Estimate for 2015 Benchmark Rate, published [on line] available <http://www.businessweek.com/news/2014-12-08/brazil-economists-increase-estimate-for-2015-benchmark-rate> [accessed 30 Dec 2014].
- [25]. Marras, P. (2011) *Administração de recursos humanos: do operacional ao estratégico*. 14.ed. São Paulo: Futura, 2011. 336 p. ISBN 8574130265.
- [26]. Marques, T. (2013) O ingresso de engenheiros recém-formandos no Mercado de Trabalho Brasileiro, [on line] available: <https://mercadoengenharia.wordpress.com/> [accessed 10th July 2015].
- [27]. Ministerio da Educação – Brazil, 2015, Revalidação de Diploma Graduação, published [on line] available: http://portal.mec.gov.br/index.php?option=com_content&id=12405&Itemid=317&EF%BB%BF [accessed 09th Jun 2015].
- [28]. Ministerio do desenvolvimento, Industria e Comercio Exterior do Brasil, published [on line] available <http://www.mdic.gov.br/sitio/interna/interna.php?area=3&menu=2673> [accessed 20 Nov 2014].
- [29]. Moraes, T. (2010) Brazil Infrastructure, [On line] available: http://www.gwu.edu/~clai/working_papers/Moraes_Thais_11-10.pdf ,Published 31 August 2010, [accessed 05th July 2015].
- [30]. Moreno, A. (2014) Saiba como ter diploma de medicina de fora reconhecido sem o Revalida, published [on line] available <http://g1.globo.com/educacao/noticia/2013/07/saiba-como-ter-diploma-de-medicina-de-fora-reconhecido-sem-o-revalida.html> [accessed 16th June 2015].
- [31]. National Research Council, Centre for Education (2007): *International Education and Foreign Languages: Keys to Securing America's Future*.
- [32]. OECD – Organization for Economic Cooperation and Development (2015) *Fostering international mobility of skilled people to fill skills gaps*, Published, [on line], available:
- [33]. <http://skills.oecd.org/developskills/documents/fosteringinternationalmobilityofskilledpeopletofillskillsgaps.html> [accessed 16th June 2015].
- [34]. OECD - Organization for Economic Cooperation and Development (2013) *Employment outlook 2013*, [on line] available: http://www.keepeek.com/Digital-Asset-Management/oecd/employment/oecd-employment-outlook-2013_empl_outlook-2013-en#page1 [accessed 10th July 2015].
- [35]. OECD - Organization for Economic Cooperation and Development (2014) *Investing in Youth: Brazil*, [on line] available: http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/investing-in-youth-brazil_9789264208988-en#page4 [accessed 06th June 2015].
- [36]. Pearson, P. (2014) *Index of cognitive skills and educational attainment*, published [on line], available: <http://thelearningcurve.pearson.com/index/index-ranking> [accessed 20 Nov 2014].
- [37]. Salerno, et al. (2013) Uma proposta de sistematizacao do debate sobre falta de engenheiros no Brasil, published [on line], available: <http://www.iea.usp.br/eventos/documentos/uma-proposta-de-sistematizacao-do-debate-sobre-falta-de-engenheiros-no-brasil> University of Sao Paulo [accessed 03th July 2015].
- [38]. Saunders, Mark., Lewis, Philip., Thornhill, Research Methods for Business Students. 2^a.ed. Edinburgh: Pearson Education Limited.
- [39]. Science without borders (2014), [on line] available: <http://www.cienciasemfronteiras.gov.br/web/csf-eng/> [accessed 20 Nov 2014].
- [40]. Senado Federal (2013) Lei do Senado (PLS) número 399, [on line] available: <http://legis.senado.leg.br/mateweb/arquivos/mate-pdf/144009.pdf> [accessed 16th June 2015].
- [41]. Simas., A. (2012) Brasil tem déficit de 40.000 engenheiros published [on line] available: <http://www.gazetadopovo.com.br/educacao/vida-na-universidade/carreira/brasil-tem-deficit-de-40-mil-engenheiros-1zdxbrbq55ev34eybcgasp6xa> [accessed 01 Jun 2015].
- [42]. The Federal Institute for Vocational Training - BIBB (2001) *Vocational Training in an International Context*, Published [on line], available file:///C:/Users/Charles%20Castro/Desktop/bwp-2001-h4-sd-en.pdf [accessed 16th June 2015]
- [43]. The Federal Institute for Vocational Training - BIBB (2005) *Promoting Innovations in Vocational Education and Training – Na Exchange of German Experiences*, Journal of the Federal Institute for Vocational Education and Training, W. Bertelsmann Verlag Special Edition, Number 20155

- [44]. Walker, A. (2014) Whatever happened to the BRICS economies, Published [on line], available: <http://www.bbc.com/news/business-29960335> [accessed 30 Nov 2014].
- [45]. Water, J. L. (2006) 'Geographies of cultural capital: education, international migration and family strategies between Hong Kong and Canada', Transactions of the Institute.
- [46]. Wellington, J. (2000) Educational Research: Contemporary Issues and Practical Approaches, Bloomsbury Publishing.
- [47]. World Bank (2015), [on line] available: <http://www.worldbank.org/en/country/brazil/overview#1> [accessed 07 Jan 2015].
- [48]. Wordelmann, P. (2000) Qualification development of internationally active skilled workers – from mobility of labour to 'virtual mobility', CEDEFOP, ISBN 92-828-9448-7, 71-84

Charles Alves de Castro. "Investigating the Impact of Internationally Acquired Qualifications on Labour Market Performance: The Case of Brazil" IOSR Journal of Research & Method in Education (IOSR-JRME) , vol. 8, no. 3, 2018, pp. 79-89.