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Chair of Professor Dr. Tina Seidel

Master of Education Research on Teaching and Learning

Master's Thesis

Post-Graduation Career Experiences - A Questionnaire Study of the Master Program 'Research on Teaching and Learning (M.Ed)'

Author:	Obehi Itua
Supervisor:	PD. Dr. Jutta Möhringer
Advisor:	PD. Dr. Jutta Möhringer
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Declaration of Authorship

I confirm that this Master's thesis is my own work and I have documented all sources and material used.

This thesis was not previously presented to another examination board and has not been published.

München, 24.03.2020

Place and date

Signature

Dedication

I dedicate this piece of work to every African parent who against all odds, invest daily in the education of the *Girl child.*

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Abstract

The Research on Teaching and Learning (RTL) program at the Technical University of Munich has been running for seven years, yet no known studies have reported the students' post-graduation career experience. The purpose of this study was to close this gap by investigating the career value and other aspects of the RTL degree qualification. The RTL Alumni Postgraduation Survey (RAPS) piloted in this study was developed based on expert interviews. It collected data using Likert scale and open-ended questions about participants' post-graduation career experience. The participants graduated between 2015 and 2019. 70% of the participants reported to have found jobs in academic or non-academic sectors before graduation or less than six months after that and a further 23%, after six months. Graduates with academic jobs provided positive comments about the career value of RTL program while those with non-academic jobs were critical. Statistically however, both group of graduates were rather pleased and found the RTL Qualification equally valuable. The study also revealed positive relationships between the RTL curriculum, the skills acquired from the program and the current professions of graduates. Future research may investigate the perception and importance of the skills acquired from this program for fields outside of academics.

Keywords: Questionnaire study, career value, graduate tracer studies, postgraduation experience, research degree.

1 Introduction

This chapter presents a broad overview of the study, a statement of research problem based on existing literature on research programs and postgraduation career experiences of graduates. Additionally, research questions (RQ) and hypotheses will be presented in this chapter to examine the objectives of the study.

1.1 Background to the study

Teaching, traditionally, does not involve research in order to explore the problems that may arise or already exist in the process of teaching and learning. In the past, teaching was characterized by processes that involved various activities to help younger people learn how to deal effectively with basic needs for survival (Ujlakyné Szucs, 2009). These activities mainly ranged from planning and delivering lessons, assessing students' work to tracking and examining students' progress. While these activities are vital to the teaching and learning processes, little attention was paid to the development and improvement of teaching and learning experience (Joyce, Weil, & Calhoun, 2003). Rather, professionals in this field relied on experts from other fields such as Psychology, Philosophy, Mathematics and Science, for the possible solutions to problems and in some cases, for improving outdated practices that are faced by teaching and learning processes (Vásquez, 2017).

Several evidences exist of the substantial contribution to the field of teaching and learning, by the people who were not trained as educationists. These contributions are known to reflect on teaching and learning processes based on their individual perception, theorise about it, make scientific conclusion and suggestions for implementation to educational practices (Butt & Shams, 2013). Examples of some contributions that have birth a shift in Teaching and Learning processes (Scheirer, 2000) are but not limited to: Blended-learning environment (Bonk, Olson, Wisher, & Orvis, 2002; Dron, Seidel, & Litten, 2004; Stacey & Gerbic, 2008), the use of Robotics in Education (Klassner & Anderson, 2003; Li, Chang, & Chen, 2009), Mobile Learning (Attewell, 2005; Sharples, Taylor, & Vavoula, 2010) and

Instructional design (Paas, Renkl, & Sweller, 2003; Tennyson, 1992). This shift has changed the nature of all teaching and learning processes in elementary education, higher education (Stacey & Gerbic, 2007)and including workplace learning (Illeris, 2003).

More and more people with new perspectives and different academic qualifications have become knowledgeable enough to engage in extensive scientific investigation through rigorous research methods in order to improve or solve problems in the teaching and learning practices (Vásquez, 2017). Even though on the one hand, researchers have argued that findings from these research can be useful, it does not substitute for educational research of a more conventional kind; rather it is likely to be of value from both a practical and a research point of view (Hammersley, 1993). Researchers on another hand opines that the field of research on teaching and learning has produced and will continue to yield to the growing bodies of knowledge (Shulman, 1986).

A support for the opinion of Shulman (1986) could be drawn from the discussion on the impact of results from the Programme for International Student Assessment (PISA) studies that have ‘‘caused shockwaves in the educational landscape and led to a re-evaluation of other international comparisons’’ (Ertl, 2006, p. 619). This impact has today, transformed the educational policies and has a strong influence in the educational reforms of participating countries (Pons, 2017). The PISA which is conducted every three years to examine the knowledge and skills of 15-year olds in compulsory subjects (reading, mathematics, literacy and science) was evaluated to compare the performance of educational systems of participating countries. Findings from PISA studies led to some tangible changes in the Educational system of some participating and nonparticipating PISA countries. The international focus of the PISA study particularly adds to its importance as an indicator of the success or failure of education policy (Grek, 2009).

In the case of Germany, for example, the results of the PISA study led to the increment of research funding in higher education institutions by the government in order to promote international competitiveness (Short, Healey, & Romer, 2010)) and a ‘‘massive expansion of

empirical educational research of the PISA-type in Germany'' (Waldow, 2009, p. 481). Evidence of this massive expansion of empirical educational research in Germany according to Waldow (2009), are the remodelling of educational research organizations such as the German Educational Research Association (GERA) and the Deutsche Forschungsgemeinschaft (DFG). The main purposes of these educational research organizations are to promote and/or finance study, research and education in the area of educational theory and science among educational researchers who are actively involved in teaching and educational research (DeutscheForschungsgemeinschaft, 2020)

As Australia offers fully funded Cooperative Research Centres (CRC) to promote diversified research training to students and create research and industrial links and collaboration between government, industry and universities (Manathunga, Pitt, & Critchley, 2009); higher education institutes in Germany like the Technical University of Munich, University of Passau etc., now offer tuition free degree-awarding programs with strong research focus at graduate levels. These graduate programs which are designed to pull the borders of research, teaching and learning together, provide students with opportunities to experience a broader perspective through which to view and understand the relationship that exists between teaching, research and learning (Wilson, Howitt, Wilson, & Roberts, 2012). While studies have reported students satisfaction with these postgraduate research programmes, the question on the career destination of these students after graduation or how these programs prepare them with easily transferable skills for careers within and outside academia has been scantily answered (Purcell, Elias, Durbin, Davies, & Warren, 2006). Therefore this work seeks to bring to light, the post-graduation career experiences of graduates from one of such research programs with a special focus on the Research on Teaching and Learning (RTL) program that is being offered as a Master's in Education (M.Ed.) by the School of Education, at the Technical University of Munich (TUM).

1.2 Statement of research problem

There is a growing number of criticisms of universities for producing overly specialized research graduates, who are unable to apply their expertise to the changing workplace environments and non-research topics (Manathunga, Lant, & Mellick, 2007). As a result, researchers argue the importance of understanding the perception and employment experience of research graduates, so that these programmes could be redesigned to prepare research graduates for a range of careers, more effectively (Manathunga et al., 2009). In view of these debates, the importance of constant re-evaluation and improvement of research programmes including tracing graduates from such programs should not be underemphasized.

Within the frame of the RTL program for example, no known studies have sought to report the students' post-graduation career experience in a bid to uncover the relevance of the degree program to the subsequent careers of its graduates. Rather, the indicators most frequently used are results of evaluation surveys at the end of each course module or students' satisfaction. This however should not be the case. There is little demand for graduates of research programs in sectors other than Education (Golovushkina & Milligan, 2012). Also, other studies have reported that while graduates acknowledge the role of their academic qualifications for employability, they now have a decreasing responsibility in determining their employment outcomes within the graduate labour market that is perceived to be a congested and competitive (Tomlinson, 2008). As such, it is pertinent to unearth what skills are required or demanded by today's job market so that RTL graduates may leave the program with a readiness to apply a wide range of skills, knowledge and attitudes in professions within and outside academia.

Therefore, a more fine-grained study of the postgraduate experience of the RTL graduates is required; research needs to be undertaken to identify the sectors in which graduates gain employment, how their experience from the program prepared or directed them into these areas, and any gaps in their knowledge or skill.

1.3 Purpose of study

At the time of the study, the RTL program at TUM had been running for seven (7) years. However, no known studies have examined the outcome of the program from the graduates' perspective. During the program, students are offered modules with varying topics and a compulsory internship. Additionally, they are tasked with group or individual projects that promote their understanding of empirical investigation in educational phenomena with different research methods, evaluation of the quality of educational practices using set scientific standards and the application of educational theories. They also According to Owen (2001), by engaging in these projects, students develop transferable soft skills such as communication, organisation and self-motivation that may be required for successful employment and development of their careers in educational consulting, social work, university research, quality and evaluation management, educational project management etc.

This has therefore led to an interest in examining the career experiences of graduates after graduation. Some researchers suggest that if the quality of the higher education experience is to be improved, the information from the graduates themselves on such aspects as skill acquisition, the value of the degree, transition to the workplace or their reaction to the learning content is essential and should be considered (Shah, Pell, & Brooke, 2004). Additionally, if changes were to be made to a program's curriculum in order to meet the demands of today's employers, then it is important that career-related developments and initiatives are informed by the opinions and experiences of former students (Gedye, Fender, & Chalkley, 2004). As a result, the purposes of this study include the following:

I. to investigate the career value of the RTL degree qualification
II. to examine the relationship that could exist between the skills acquired from the RTL program and graduates' current professions.
III. to examine whether there is a relationship between the RTL curriculum or the compulsory internship and the current professions of graduates.

1.4 Research Questions

The present study examined the post-graduation career experiences of graduates of the RTL Master's program on three main topics. For each main topic there is a research question with corresponding alternative and null hypotheses for statistical tests formulated. The main topics (I-III), the research questions (RQ1-RQ4) with the corresponding alternative hypothesis (H1) and null hypothesis (H0) are as follows:

I. The career value of the RTL degree qualification

RQ1: What is the career value of the RTL degree qualification after graduation?

H_1: The career value of the RTL degree qualification will differ significantly between graduates employed in academic and non-academic professions.

H_0: The career value of the RTL degree qualification will not differ significantly between graduates employed in academic and non-academic professions.

II. The relationship between the Skills acquired from the RTL program and the Graduates' current professions

RQ2: What kind of relationship exists between the skills acquired from the RTL program and the current professions of the graduates?

H_1: There is a statistically significant relationship between the skills acquired from the RTL program and the current professions of the graduates.

H_0: There is no statistically significant relationship between the skills acquired from the RTL program and the current professions of the graduates.

III. The relationship between the RTL curriculum or the compulsory internship and the current professions

RQ3: What kind of relationship exist between the RTL curriculum and the current professions of RTL graduates?

H_1: There is a statistically significant relationship between the RTL curriculum and the current professions of RTL graduates.

H_0: There is no statistically significant relationship between the RTL curriculum and the current professions of RTL graduates.

RQ4: What kind of relationship exist between the internship module and the current professions of the graduates?

H1: There is a statistically significant relationship between the current careers of the RTL graduates and their internship experience.

H1: There is no statistically significant relationship between the current careers of the RTL graduates and their internship experience.

1.5 Conclusion

This chapter provided a detailed discussion of a stated problem, purpose of study and presented four hypotheses in relation to the research questions. The next chapter seeks to present the literature review of the study.

2 Literature review

It is of essence that research is guided by some theoretical framework that ‘‘provides a structure within which to attempt to answer ‘Why’ questions’’ (Noko & Ngulube, 2013). This chapter will provide an overview of the Research on Teaching and Learning (RTL) program as well as theoretical framework for answering the research questions of this study and findings from related studies.

2.1 An overview of the Research on teaching and learning master’s program

The Master’s program Research on Teaching and Learning (RTL) at the Technical University of Munich School of Education (TUMED) is an example of university programs that is designed to develop students’ awareness on the nature of educational research and their research skills. This will thereby transform them into researchers who will be capable of adapting to a range of employment possibilities and taking up top management roles in industry and academia. Over the past six years, the number of local and international applicants to the program has increased drastically. Data from the course’s website reveal that about 900 applications have been received since the inception of this program in 2012. The same data reveals an enormous difference in the number of applications 13 and 166, that were received in 2012 and 2018, respectively.[1]

As an international program at the Technical University of Munich, the primary language of instruction is English. Therefore, applicants are required to have a comfortable level of English language proficiency. Despite the language requirement for this program, the applicants’ pool consists of local and international students with diverse undergraduate

[1] Data is publicly available. See *Tabelle 1: Entwicklung der Studierendenzahlen (WS 12/13 – WS 18/19, Quelle: Statistik TUMonline) on pg. 8 of the Studiengangsdokumentation Masterstudiengang Research on Teaching and Learning at* https://portal.mytum.de/Studiengangsdokumentationen/TUM School of Education

qualifications from Psychology, Educational Science, Political science etc. This diversity shows the variety in the academic background of graduate students who participate in the program yearly; in addition to the previous teaching and non-teaching work experiences that they possess. This steady increase in the number of graduate students' applications and enrolment to the RTL program could be attributed to economic and social considerations or a desire to be better equipped for the labour market, especially in this era of globalization and economic meltdowns as some studies suggest (Bedard & Herman, 2008). To put it more clearly, ''the instrumental motives for graduate education are dependent on the market and work opportunities that the market can or cannot offer'' (Bedard & Herman, 2008, p. 198).

In the context of research programs, studies reveal that students enrol in a research program for a variety of reasons: for intellectual appeal and the satisfaction of study (Leonard *, Becker, & Coate, 2005); to develop pedagogical research knowledge and skills, for rapid career progression, for personal development and for perceived benefits for future employment from their participation in research activities (Gilbert *, Balatti, Turner, & Whitehouse, 2004); (Healey, Jordan, Pell, & Short, 2010). Another study categorized students' motivation to enrol in Research programs into two main categories: professional (improving or changing career paths) and personal (related to individual preferences and interests in certain research topics) (Golovushkina & Milligan, 2012).

In the light of this, the aim of the RTL program is to qualify young academics for the interdisciplinary context of educational sciences and psychology. Regarding empirical educational research, attention is paid to the study of teaching and learning processes in a wide variety of educational contexts to enable educationalists, psychologists and teacher training students reach a deeper level of scientific education. The program's curriculum explores key theories, concepts, methods and findings of empirical educational research and focuses on teaching and learning in a variety of educational contexts. During the program, students are also required to undergo compulsory internships to give them a glimpse of how they can apply the knowledge and skills acquired from the program in the world of work and

research institutions. These internship placements are known to be beneficial to the interns (students) and employers (Coco, 2000) and create possible career paths for students after their studies (Binder, Baguley, Crook, & Miller, 2015).Therefore,

Usually during application phase of any university program, the program's website is the focal point for prospective students, current students and staff and provides vital information on possible professional and personal outcomes of the program (Ritter, Freed, & Haskett, 2005). In the case of the RTL program, the course's website also highlights three core competencies[2] that are obtainable after graduation, as a result of the theoretical and practical experiences that the RTL program provides. The course website also provides information of possible professional career paths that are possible with the RTL degree qualification. These professional career paths[3] may include:

a) Research career at universities or research institutions,
b) Management, project coordination, evaluation management careers at Non-Governmental Organizations (NGOs)
c) Administrative tasks of quality management and development of quality in research and teaching, Universities
d) Scientific organizations: program directors and referents
e) Ministries of education, quality assurance agencies, school organization and school development

However, whether these core competencies that is expected from the RTL program make a difference in the post-graduation and professional life of its graduates is important; bearing in mind that the outcomes of such research higher degrees have however, been the subject

[2] Information is accessible on RTL course's website: See ''Which further expertise and skills will I acquire?'' at **https://www.tum.de/en/studies/degree-programs/detail/research-on-teaching-and-learning-master-of-education-med/**

[3] Public information on RTL course's website: See also ''Which professional opportunities can I take up with this qualification?'' at **https://www.tum.de/en/studies/degree-programs/detail/research-on-teaching-and-learning-master-of-education-med/**

of considerable development and debate in universities in recent times (Gilbert * et al., 2004). Also given the competitiveness and diversity of today's workforce, the need for graduates to develop a range of personal and intellectual competencies beyond specific expertise in an academic or vocational discipline is becoming increasingly important (Shah et al., 2004). This may mean that having a degree in Research on Teaching and Learning, although necessary for the development and enhancement of our educational systems, may not be sufficient alone for a successful career. Rather, the transferability of other acquired competencies of the individual is of more value.

Clearly, the Research on Teaching and Learning program is expected to enable graduate students from a variety of academic backgrounds access to a deepening scientific education which is essential to educational and research practices. In support, some findings show that such graduate programs with strong research focus are beneficial for the students who are being taught by active and experienced researchers and being involved directly in research activities (e.g. Healey, 2005). Graduate students have reported that their experiences of the nature of research and the development of research skills increased while undertaking research projects (Healey et al., 2010). There are also perceived benefits for future employment from their participation in research programs. Harman (2002) revealed that doctoral students linked to the Australian Cooperative Research Centres are generally more satisfied with their training experience than their counterparts in regular science and technology disciplines because they have clearer and more practical prospects of their future career. This clarity will likely enhance how they perceive research careers particularly in universities, industries or in other research-specific agencies. One point of view in favour of this argument is drawn from the findings of Leonard and her colleagues. Their study of Education research Alumni of the University of London who completed their theses in 1992, 1997 and 2002, reported that a good number of the Alumni believed their research degrees had been beneficial for their career advancement (Leonard * et al., 2005).

Furthermore, the experiences acquired through some key features of the RTL program such as working with people from various cultural backgrounds, scientific writing, self-directed learning, research group interaction, internship placements, etc. have been reported as beneficial to the enhancement of graduates' leadership skills, critical judgement and analytical skills, ethical and social understanding, understanding of intellectual property issues which are useful for their professional engagements after graduation (Manathunga et al., 2009). Also, within the context of the RTL program, the use of the English as language of instruction is also beneficial for students to hone their professional communication skills for their future careers because of the importance of the English language in academia (Nunan, 2003). Apart from the direct benefits of Research programs on the students, past studies have also uncovered the social and economic impact of research programs. For example, Raddon and Sung (2009) in their review of the Career Choices and impact of PhD Graduates in the UK, highlighted the applaudable impact doctoral graduates have recorded across a wide range of sectors, with low levels of unemployment, high employability over time, and a major contribution in terms of high level skills and knowledge. They further pointed out that graduates have been able to make use of their skills in gaining employment and within their work, employers particularly value the technical knowledge, research and problem-solving skills that research graduates bring to their jobs.

Although the approach and benefits of research programs like the RTL program are noteworthy, researchers (Gardner & Craig, 2001, cited in (Gedye et al.) have suggested that these research programs could do more than paying generous attention to research by having a stronger focus on employability which would be beneficial for graduate recruitment after graduation. In support, a study of doctoral students' experience with the Cooperative Research Centre (CRC) program (a program that is designed to enhance university-industry collaborative research initiatives), revealed that even CRC-trained doctoral researchers needed further support and differentiated training programmes to prepare them for their career aspirations (Manathunga et al., 2009). Another study into the transition of Research graduates from academia to industry, revealed that even though they thought they had a lot

to offer, research degree holders reported that they do not have some required skills to fit in a non-academic career(De Grande, De Boyser, Vandevelde, & Van Rossem, 2014). These findings give a strong impression that the career value of such research programs is arguably not sufficient for preparing graduate students with the transition from university to full time professional careers.

Also, due to the growing need for global knowledge and an understanding of international perspectives, today's workplace requirement is not limited to scientific processes that birth new knowledge to a disciplinary domain. This means that graduates of research and even non-research centred degrees are expected to possess a variety of knowledge and skills, useful in different and evolving environments (De Grande et al., 2014). What this means is that preparing for a professional career in any field should enhance skills that could be adapted for a variety of working environments. For example, for a profession within academia, graduates of the RTL program may be able to carry out original, independent research and have a successful academic career given the skills acquired throughout the duration of the program. However, questions about whether these same graduates are aware of the skills that they might need for a career outside academia have little or no answers. Rather, researchers have continued to stress the pain point of Research programs in Education as being strongly focused on academic careers and have raised questions about the relevance of this qualification to graduates who have no interest in pursuing a career in Academia or Research (Purcell et al., 2006; Raddon & Sung, 2009). As such, a limitation in their career prospects with this qualification is eminent when, for example, compared to Research programs focused on Science, Technology, Engineering and Mathematics (STEM) topics, whose graduates may seek careers in academia or industry. Additionally, Purcell et al. (2006) reports that more general and transferable skills in terms of project management and leadership which are demanded by employers and placed in high priority in terms of job requirements, were either in short supply among graduates of social research programs or not formally developed during the course of their studies.

Nevertheless, while graduates are generally required to possess expertise in their field, they also need to have the right skill sets that will enhance their flexibility and adaptability to the demands of any workplace, successfully (Barnacle *, 2005). However, this may not always be the case as some graduate students have assessed getting a research degree as being worthwhile personally, but not professionally (Leonard * et al., 2005). Based on this, researchers have argued that “graduate students generally expect to learn what they need for their academic and professional careers from their advisors and graduate school experiences” (Lee & Lee, 2017, p. 726). They further pointed out that through the quality of the program and any other available support initiatives, students expect to develop relevant soft skills to make them more successful in their professional endeavours. From these arguments, it may be assumed that there exists a belief that there are generic skills which graduates of Research higher degrees such as the RTL program should possess, and which should be applicable to a wide range of tasks and contexts beyond the university setting (Gilbert * et al., 2004). These suggest that understanding the perceptions and employment experiences of recent research graduates is a vital way of ensuring that research programmes are designed to prepare research graduates for a range of careers and in more effective ways.

2.2 The Kirkpatrick’s four-level model: The RTL Program

Evaluation of educational program outcomes plays an increasingly important role in the improvement of the program. This remains a focus of many scientific studies in literature as well as in everyday practice of colleges and universities. Cook (2010, p. 297) defines educational program evaluation as ‘‘using information to make a decision about the value or worth of an educational program.’’ A good number of tracer studies of graduates from research-based programs like the RTL, have revealed graduate students’ high level of satisfaction with program experience (Harman, 2002), career advancement (Leonard * et al., 2005), skills development (Manathunga et al., 2009) and gaining employment in choice occupations after graduation (Giles, Ski, & Vrdoljak, 2009).

As a result, for the purpose of this study, the popularly known Kirkpatrick's four-level approach (Kirkpatrick, 1996) provides a structure for gaining insights into the postgraduation career experiences of graduates of the RTL program. Some of Kirkpatrick's major contributions to educational evaluation are the strength of its focus on program outcomes and the clear description of outcomes beyond just learner satisfaction that it provides. Kirkpatrick proposed collecting data across four levels for program outcomes:

2.2.1 Reaction

Reaction mainly refers to satisfaction or reaction to the program by the RTL graduates. Within the context of the RTL program, reaction is the graduates' perceptions of the program (Kirkpatrick, 1996). Reactions are represented by their evaluations of the program and by self-reports concerning the professional benefits of the program (Praslova, 2010). Reaction level is likely the most widely used in the Kirkpatrick's four-level model because of the ease of data collection through questionnaires (Arthur Jr, Bennett Jr, Edens, & Bell, 2003).

2.2.2 Learning

This refers to new or improved knowledge, skills, personal development etc. gained through the program. Based on this criterion, graduates of the RTL program can report 'what was learned' or 'what was not learned' that they consider beneficial for their subsequent professional careers. Although, this criterion of the Kirkpatrick's model (Kirkpatrick, 1996) generally focuses on the of 'what was learned' (Baskin, 2001).

2.2.3 Behaviour

This seeks to understand the changes in graduates' behaviour and within the context for which they are being trained: the context being professional careers in the case of RTL graduates. This level provides a ''variety of information to stakeholders'' (Dick & Johnson, 2002, p. 149). Through graduate tracer studies, graduates are able to ''reflect on the skills they have acquired from the program on their jobs and answers questions of whether the skills are relevant and are being used on the job'' (Frye & Hemmer, 2012, p. 293). In their

discussion of applying the science of learning to the university and beyond, Halpern and Hakel (2003) stress the importance of the transferability of knowledge and skills in education and the need to teach students in a way that they will be prepared for unpredictable changes and life tests in the future and outside of the classroom contexts.

2.2.4 Results

The program desired results in its larger context. To assess graduates' reactions to the program, evaluators would determine the desired reactions (satisfaction, perception etc.) and ask the graduates what they thought about the program (Praslova, 2010). Graduates might be asked, for example, if the RTL was an advantage for getting an employed and if the curriculum or internship experiences were valuable. The fourth level of Kirkpatrick's evaluation focuses on program outcomes observed after a suitable period in a larger context; in other words, the program's impact. In the case of the RTL program, program's impact could be employability, applicability of skills, relevance of the degree to work environment etc.

2.3 Related Graduate Tracer studies (GTS)

Graduate tracer studies involve identification and follow-up of graduates from a university program due to the need to investigate how graduates perceive the experiences the program and their subsequent transition to the job market (Badiru & Wahome, 2016). GTS are a ''means of maintaining curriculum relevance and providing targeted benefits to graduates to enhance the marketability of educational programs'' (Woya, 2019). European Universities adopted the use of tracer studies towards the end of the 20th century for program accreditation, to establish the link between the job market and study programmes and to make informed and evidence based decisions about improvements and quality education and services in higher education (Badiru & Wahome, 2016). This means that, from tracing the RTL graduates around the world, adequate knowledge on employment outcomes and the application of their training to their professional careers, may inform policy formulation or changes towards the improvement of the program.

Tracer studies on skills acquired from a program reported that although graduates are not satisfied with the overall curriculum offered they are generally happy with their acquired knowledge and technical skills which are useful and contributes to a great extent on their job performances (Ramirez, Cruz, & Alcantara, 2014; Shongwe & Ocholla, 2011). In contrast however, researchers have pointed that transfer of skills occurs only rarely even within one's own specialist field, and the applicability of these skills outside the context of acquisition is questionable (Craswell, 2007; Hager, 2006). This may be true as results from another study based on data obtained from questionnaires distributed to a program's alumni revealed that graduates were dissatisfied with their LIS program and believed that the skills obtained from the program were inadequate to perform their jobs (Mammo, 2007).

In terms of curriculum relevance, graduates of the Graduate School in a Philippine Private Higher Education Institution, revealed that the courses offered are parallel with the practical application of the work, which means that the curricula are responding to the needs of various industries (Bueno, 2017). In contrast, graduates of a Records and Management program (RAM) from University at Zimbabwe reported their dissatisfaction with the limited internships and exposure to practical training during their studies as well as industry underappreciation of the RAM qualification (Noko & Ngulube, 2015). With the use of qualitative and quantitative methods to explore the relationship between the employment patterns and the Journalism and Media Studies (JMS) curriculum. A survey of JMS alumni who graduated between 2005 and 2010 revealed that 96.9 percent of the respondents were employed in the field relevant to their studies, and the major employers were the media houses (Nkomo, 2012 cited in Noko and Ngulube (2015).

With regards to graduates' job search and the employers who may hire them, researchers argue that the meaning of university experience varies from one student to another. Those who are more proactive and ready to take initiatives are more likely to develop employability, which further enhances their speed of employment. They further stress that the likelihood of employment is no longer a product of qualification alone, but requires a

combination of employability, social networks and self-development (Ren, Zhu, & Warner, 2017). In contrast however, a study of data collected over 10 years about the work placement of research-based graduates within Australia at the completion of higher degrees, reported that two-thirds of research graduates are placed in research positions while the remaining one third enter into non-research based positions such as engineering, management, legal and financial professions (Kentish, Sharkey, Gravina, & Shallcross, 2006). Another study in favour of Kentish et al. (2006), suggests that employers are more interested in the skills that research programmes are increasingly concerned to develop: research and analytic skills, project management skills, communication skills; than in the qualification itself (Purcell et al., 2006). Nevertheless, the trace study by Ramirez et al. (2014) showed that graduates from programs in the Rizal Technological University (RTU) are marketable and appropriately trained with the majority being employed in course-related jobs within a short period after graduation. However, the RTU graduates' recommended communication skills, critical thinking skills and Information technology skills as the top three relevant skills that could make curricular offerings more relevant to current jobs.

As a form of empirical study, a prior study suggests that data from tracer studies on ‘‘the professional activities (career, status, income) of a program's graduates as well as information on the relevance of knowledge and skills (relationship between knowledge and skills and work requirements, area of employment, professional position) can reveal gaps in the program and also serve as a foundation for future improvement’’ Schomburg (2003, p. 12). Indeed, RTL graduates who have gone through the program and graduated from it are, in the best position, to appraise the quality of the program, in terms of preparing them with relevant lifelong transferable skills in order to be well attractive and employable by employers (Latif & Bahroom, 2010). Especially because they expect to have a sense of competence in the field they have been trained for and develop the confidence to explore new possibilities and a variety of employment opportunities in an increasingly competitive job market.

2.4 Conclusion

This chapter provided examples of findings from similar studies and a theoretical framework for this study. The next chapter will present the methodological approach of the study.

3 Methodology

This chapter provides a detailed explanation on how the study was conducted. It reports descriptive statistics of the sample of the data, design, research instrument and the statistical methods used in analysing the data.

3.1 Research design

The present study adopted the Questionnaire design in order to answer the related research questions. This research design was employed because it is less expensive, requires little time and simplifies the process of collecting data from such a geographical scattered sample as the RTL Alumni population used in this study (Gay, Mills, & Airasian, 2009). Also having administered the questionnaire online, confidentiality and ease of access was guaranteed for the participants as they provided relevant qualitative and quantitative data for the study. Although, some major disadvantages were low response rates and the possibility of some participants responding to the survey more than once.

3.2 Participants

Within the context described, the aim of the research presented here was to examine the post-graduation career experiences of the value of the Research on Teaching and Learning (M.Ed) degree. The study participants were the graduate population of the program since inception. Altogether, the program has produced 79 graduates between 2014 and 2019 - with its first set of graduates emerging in 2014. Table 1 shows the distribution of graduates by gender across the graduation years in case of the 39 RTL graduates who participated in this study.

With regards to the different years of graduation, the survey does not question trends that occurred during their studies or the ‘then’ and ‘now’ post-graduation experience of graduates based on the year of graduation. Rather, the respondents are examined together as the nature of the RTL program is still highly academic, research-oriented and includes a

compulsory internship. However, there are no reasons for believing this invalidates the RTL post-graduation survey, particularly because the graduates are from the same program, the same institution and may have been taught by the same professors and curriculum even though there have been changes in the type of internships over the years).

3.3 The RTL Alumni Postgraduation Survey (RAPS)

The RTL Alumni Postgraduation Survey (RAPS) piloted here explored graduates' educational and socio demographic profiles, their employment status and sector of employment and lastly, aspects of RTL qualification that has proven to be beneficial after graduation. Survey items were adapted from pre-existing questionnaire instruments used in past studies (Nerad, Rudd, Morrison, & Picciano, 2007; Purcell et al., 2006; Woya, 2019). Thereafter, a follow-up feedback was sought from four RTL graduates through expert interview.

The series of expert interviews with these graduates of the Research on Teaching and Learning (M.Ed.) from different graduation years provided a broader understanding of the Post-graduation career experiences as well as hints for literature analysis, questionnaire items and answer choices, where needed. All four of them were selected with the convenience sampling strategy (Gay et al., 2009), as they were readily available and volunteered to participate for having graduated from the program between 2016 and 2018. They are also currently engaged in Academic and non-academic professions as Doctoral students/Research assistants and professionals in educational consulting and e-learning design.

These semi-structured interviews (see Appendix A) revealed initial insights and hints for the questionnaire items and clarity for definition of research terms like post-graduation, employment status, career experience, and the value of the RTL degree. For example, all four of them pointed out that the choices for describing one's 'employment status' were rather limiting given that a doctoral position at a University in Germany is considered as full-time

employment. Therefore, they recommended wider choices or a neutral term to ensure a full representation of respondents' employment statuses.

The experts, however, did not agree on pinning the post-graduation career experience for this study to occur within six months or less. They buttressed that RTL graduates may need a little longer than six months to transit between university and being gainfully employed, especially because of the language requirements of some employers in Germany. Contrary to this, studies have revealed that graduates with qualifications from research programs (Leonard * et al., 2005) or with previous work experiences like internships, find employment within a year or less after graduation (Aina & Casalone, 2011). Although this may not be the case of the RTL graduates, the argument of the experts could not be justified because the program is attended by a large number of international students who will likely return to their home countries upon graduation or migrate to another country when it becomes impossible to find a job in Germany. Nevertheless, suggestions from the expert interviews were used as a guide for the wording and structuring of the questionnaire as well as for more specific terminology to aid with the search for scientifically recognized literature; the result of this was deeper and rigorous literature review concerning the current study.

Following the expert interviews, the final version of the RAPS contained 42 questions and it was published online to ensure a wider reach of the RTL graduates living in different parts of Germany or around the globe. This strategy simplified the process of collecting adequate qualitative and quantitative information that is relevant to the study. However, it is worthy to note that respondents were not required to answer all 42 questions. This is because the online version of the RAPS was designed with a skip function that allowed closed-ended questions for demographic information, such as 'Which of the following categories best describes your employment status?' to skip to more specific questions if the respondent was employed or end the survey if the respondent was unemployed. In other words, the skip function allowed only the respondents who were employed to proceed with the survey in order to provide quantitative data for the study.

Even though the RAPS was administered online, the consent of each respondent was sought with a cover note at the launch of the survey that included a consent statement and answering instructions to support the self-administration of the survey. In terms of privacy and security concerns (Evans Joel & Mathur, 2005), respondents had two answer options to proceed at the end of the cover note; therefore, selecting 'I consent, begin the study' was the only way participation was possible. On selecting 'I do not consent; I do not wish to participate' a potential respondent was automatically signed out of the survey. The online version of the RAPS was divided into three sections with each section containing forced-answer and check-all questions. Forced-answer questions require answers before respondents can proceed to the next question while check-all require respondents to voluntarily select as applies from a list of choices (Smyth, Dillman, Christian, & Stern, 2006). This present study used some forced-answer questions in order to avoid the issue of missing or incomplete data (Décieux, Mergener, Neufang, & Sischka, 2015), that may be detrimental to the study outcome. However, a good balance between both types of questions was employed so as not to discourage the respondents or cause them to exist the survey untimely.

Therefore, the first section collected socio-demographic data concerning respondents' gender, bachelor's degree, year of graduation, employment status, employment type, current location, sector of employment, job role and duration of job search after graduation. Examples of socio-demographic included 'Which of the following best describes the sector of your employment?' and 'How long did it take you to find employment with your RTL qualification?'

The second section collected quantitative data from the employed respondents about how the RTL program that have been helpful in their careers and the efficiency of the RTL qualification for employability. This section included statements relating to course content, internships and skill acquisition that are unique to the employment type of respondents who are employed in academic or outside academics. Respondents were required to indicate their strength of agreement with eight statements like 'My RTL qualification / degree was crucial

for my employment' on a five-point Likert scale (from 1 = strongly disagree to 5 = strongly agree).

The closing section of the survey ended with the same questions for all the respondents, both employed and unemployed. This section that included open ended questions, allowed participants to briefly explain their experiences (challenging or positive) of owning the RTL qualification and any other areas that they felt were important and was not covered in the survey. An example of these questions is 'Can you describe a positive experience of the RTL program that is beneficial to your profession?'. This enabled the respondents, irrespective of their employment status, to provide more detailed information about skills and experiences from the program that have been beneficial. Overall, the online survey took approximately 6 minutes to complete.

3.4 Pilot study

A pilot study was conducted to test the user-friendliness and adequacy of the online survey for the target population of this study with the main purpose of checking for survey completion time, grammatical or spelling errors, skip logic error and biased items for clarity or removal. Piloting of the online survey was an important step for providing the right data set for the study and encouraging high response and completion rates. The sample for the pilot study was made up of five master's degree students and one PhD student, all of which are from the fields of education and research. Based on their responses, the wording and structure of some questions and answer choices were reviewed and modified: for example, biased and ambiguous items were excluded, more answer choices for gender was provided and the order of questions was altered.

3.5 Procedure

Initially, the Researcher started to use LinkedIn and personal Network to recruit participants for this study, but this resulted in less than 15% of the program's graduate population, which would have been insufficient. Therefore, the assistance of the program's

coordinator was employed in order to reach the entire graduate population of the program. However, due to the EU Data protection laws, obtaining contact information on the program's Alumni proved problematic. This law makes it difficult to share with a third party, the database information of any individual, and this includes the target population of this study. As a result, the program coordinator communicated with the alumni via emails, inviting them to take part in the online surveys. The online survey was active online for six months.

3.6 Definition of Terms

Post-Graduation – occurring after fulfilling all academic requirements for obtaining the Research on Teaching and Learning (M.Ed.) degree.

Career Experience – occupations undertaken with the Research on Teaching and Learning (M.Ed.) degree qualification after graduation

Value of the RTL Degree – the perceived benefits of the Research on Teaching and Learning (M.Ed.) degree qualification

4 Results

4.1 Descriptive analysis

4.1.1 Current professional activities

Responses were analysed to establish the professional activities that the RTL graduates were involved in at the time of the survey. Data for their current professional activities was obtained by a multifaceted approach that included: employment status, type of employment (i.e. whether academic or non-academic), sector of employment, field of employment and main job roles. The results in Table 2 illustrates the employment status of the participants since graduating from the RTL program.

The results in Table 3 shows that the employment status “employed, PhD” (41%) accounts for the largest portion of the respondents, followed by “employed, working fulltime” (35.9%) and “employed, working part time” (15.4%). A further 5.1% (two respondents) were unemployed and searching for jobs as at the time of this study while 2.6 % (1 person) claim to be undergoing further training.

4.1.2 Further training

Only 1 out of the 39 respondents in this study indicated undergoing further training as a reason for being unemployed. Although, this respondent who graduated in 2017, did not indicate whether this current employment status has been the case since graduation or is as a result of taking some time out of work for further training. However, the response to a further question revealed that the current employment status of this respondent may, in part, be attributed to taking time out of work for language acquisition:

“I am presently undertaking Language course to better express myself in German at work”

(RTL Graduate, Female, 2017).

4.1.3 Unemployment

According to Table 3, 5.1 percent of the sample who were observed to be currently out of work (only for less than 6 months since graduation) indicated that they were searching for jobs outside of academia in the areas of teaching, instructional design and content development. These respondents were then asked to state the importance of finding a job that is related to their RTL training. They showed more interest in the personal and social benefits of the degree than career-related opportunities:

"Maybe. Just for having a German degree is an advantage" (RTL Graduate, Female, 2017).

"No. However, the modules related to instructional design and digital media is beneficial" (RTL Graduate, Female, 2019).

Also, among this population of the study, the most common reason for being unemployed at the time of this study were the employers. Respondents stated that they were either being rejected or did not get extension on their contracts by employers. When asked if they have had any challenges searching for jobs with their RTL qualifications since after graduation, they expressed the limitations they have experienced with succeeding in the German labour market:

"Employers seem to prefer Germans or local residents" (RTL Graduate, Female, unemployed respondent A, 2017).

"No network or help from the School of education to help alumni transit into the job market" (RTL Graduate, Female, unemployed respondent B, 2019).

4.1.4 Employment

In Table 3, 92.3 percent of respondent described their employment as either working part time, fulltime or in PhD positions. A further grouping analysis in Figure 1, shows that these respondents were either in academic (44%) or non-academic (56%) jobs.

When asked the length of time it took to find employment, the results in Figure 2 shows that respondents in non-academic employment got employed sooner after graduation than their counterparts in academic employment. More specifically, respondents in non-academic employment got their jobs either before graduation or less than six months after. This may imply that the possibility of getting into non-academic employments with the RTL qualification is higher before or within the first six months of graduation. On the other hand, the respondents in academic jobs mostly found their PhD placements before graduation or more than six months after. Looking at the trend for getting academic employments, it may be concluded that the number of RTL graduates who are genuinely interested in furthering their studies with a PhD for example, do so within the first 6 months after graduating. Meanwhile, taking some time out before continuing with their education, not finding a job within the non-academic fields or struggling to get a desired PhD position could be attributed to the respondents who get into academic employment six months after graduation.

Furthermore, the RTL graduates who have non-academic employment are involved in careers within the fields of Education and training, Hospitality and tourism, Marketing, Business management and administration and Medical and healthcare. A descriptive analysis presented in Table 4, reveals that 75% and 25% of these professions were in private and public sectors respectively; where they worked as researchers, project managers, administrators, Teachers/Lecturers, Learning and development specialist and Human resource managers. In addition, the RTL graduates who have academic employment are involved in educational research covering areas such as educational psychology, evaluation, learning analytics, virtual Mentoring, Curriculum planning and development and lifelong learning.

4.1.5 Country of employment

Respondents were asked to provide details of the country where they have their current jobs and whether the official language of the country is a requirement for these jobs. The results show that RTL graduates presently work in Germany (72%), USA (13%), Italy

(3%), Finland (3%), Portugal (3%), Canada (3%) and Australia (3%). Graduates who work in English speaking countries like the USA, Australia and Canada, indicated that the English language up to native level was required for their jobs. For graduates who work in Germany, advanced German language speaking ability is a prerequisite for their jobs, whether in academic or non-academic employment. Although, being able to speak and write with the English language remains an advantage as one respondent who is employed in academia reports:

"even though I have to work with the German language daily, I am required to write articles and reports in English" (RTL Graduate, Female, Employed Ph.D.).

4.1.6 Reflections on the program's experience

The open-ended questions allowed respondents to briefly explain their experiences and challenges with the RTL qualification since graduation. This prompted more than a half of the respondents to describe in detail, some of their experiences during the RTL program and the successes or challenges they have faced in the job market using the qualification. These included some very specific comments (positive and negative) about the program's modules and the design of the program, to more general comments about the extent to which the program helped prepare them for their careers.

On the question of their experience with the different modules of the programs, four of the RTL graduates involved in this study had closely related opinions. They are mostly satisfied with some of the program's modules as illustrated below:

"I really like the approach of our program, I think it is the perfect connection for teachers, like in my case, to update knowledge about research, and get basics on statistics and digital education" (Female, employed, Learning & development role, 2019).

"The Learning theories module of the RTL program and reviewing cases of excellent educational systems around the world helped me learn more about how students learn and

how teaching can impact learning" (Female, employed, Learning & development role, 2017).

"The module on instructional design course/ digital education, M-learning was a worthwhile experience" (Female, employed, teaching role, 2019).

"I work in the field of market research, and thanks to RTL I gained a strong research methodology, that I was able to apply to a field that is completely different from education" (Female, employed, research role, 2017).

However, those most confident that their training had provided adequate knowledge of research methods were those who are currently employed in academic positions. Some of which commented that they had learned most about research methodologies and other related skills that were currently useful for them:

"I learned the method of Scientific research very well in RTL and, the knowledge of literature searching, citing and referencing helps me a lot in my PhD" (Female, employed, PhD curriculum planning & development, 2018).

"Development of Research Instruments (DORI 1 & 2) was a plus as well as preparing expert interviews and focusing on data collection increased competency level to become a well-equipped researcher" (Female, employed, PhD evaluation, 2016).

"I can easily make my own researches and write study papers" (Female, employed, PhD Evaluation, 2018).

"The statistics and test theory courses we had are the most beneficial for my PhD studies" (Female, employed, PhD Science education, 2016).

Despite the satisfaction with the research training, there were other comments about the scope of the program's modules for being not as broad as they had expected it to be:

"RTL program did not cover any specific ESL content such as TPR use, language acquisition" (Female, employed, teaching role, 2019).

"My current job requires a lot of measurement - the two quantitative courses in RTL were a good start, but I have started taking additional classes in latent trait modelling and cognitive measurement" (Female, employed, research role, 2018).

"There were not enough practical use cases in classrooms" (Female, employed, Learning & development role, 2017).

"Visual design elements and principles is a feature of Instructional design. We haven't taken any course about it" (Female, employed, Learning & development role, 2018).

Additionally, a few of the respondents commented on the usefulness of team projects and working in multicultural teams which has helped them to perform well in the diversity of today's workplace:

"Working with an international group gave me a lot of experience. I learned a lot, and it helps with my current employment when teaching adults from different cultures" (Male, employed, Teaching role, 2019).

Two respondents commented on the usefulness of the compulsory internship that was undertaken during the RTL program. Both among the graduates with academic employment and non-academic employment, the internship experience has been instrumental for their current jobs:

" I had the opportunity to work with the PISA Germany team and an EU Erasmus + project on social, emotional, and intercultural competence internationally; through connections of my thesis and internship advisors, I received positive recommendations to find a job closely related to my chosen thesis topic" (Female, employed, Research role, 2018).

"The internships gave me exposure to actual research projects, that I needed to get into the PHD" (Female, employed, PhD., 2017).

The difficulties of finding appropriate employment was also a key theme in respondents' comments. A few noteworthy comments provided an insight on the extent to

which the RTL program had left them unprepared for a career outside academia (and, in some cases, inside academia):

‘‘I hope to find a better job, but if they require knowledge in any statistical program (SPSS, R, etc.) I cannot say I was adequately prepared to use it’’ (Female, employed, teaching role., 2019).

‘‘I wish we learned more about fields where our skills could be employed outside of academia’’ (Female, employed, PhD. Evaluation, 2017).

‘‘The program did not provide consulting service for career opportunities’’ (Female, employed, PhD. Evaluation, 2015).

‘‘The RTL program prepared me for the analysis at basic level but not at advanced, unfortunately. For example, generalized liner modelling’’ (Female, employed, PhD Science education, 2016).

‘‘The RTL program did not offer any assistance in getting research experience. I felt way behind the other PhD candidates at my current institute in conducting actual research (such as data analysis)’’ (Female, employed, PhD. Evaluation, 2015).

There is one generally negative comment about the value of the RTl Qualification.

‘‘Nothing of what I do requires what I learnt during the programme. I learnt everything in situ, so the programme did not prepare me for anything that I do. The programme itself was good. Teachers were great. The Programme is great if you wish to pursue a career in research. Unfortunately, the opportunities for it are scarce, which makes the degree useless. At least in my experience in Germany, completely useless. What’s worse, nobody cares about you after you graduate. Where are RTL students at the moment? Working as secretary, doing something completely unrelated to their studies, and even working in ALDI. Very few got a PhD position and that was more a matter of luck than academic preparation’’ (Male, employed, Administrator role, 2018).

While many respondents stated how much they had appreciated the opportunity to acquire some specific skills during the RTL program, there were numerous comments about areas for improvement and the need for more generic skills training. These are summarised in the following comments from graduates in non-academic employment:

''The RTL program covers good topics; however, it is not well organized and often wastes a lot of weeks reviewing content from a previous course. I also don't feel like I can apply knowledge learned to future careers. It is too much theory. More practice is needed'' (Female, employed, teaching role, 2019).

''I started my job as a market research with zero experience in the marketing field. I understand RTL has a strong focus on education but being in market research, actually a very appropriate job field, it could be useful to implement one class teaching some marketing basis'' (Female, employed, research role, 2018).

''The RTL program is STEM oriented. It is a challenge for students with different background'' (Female, employed, PhD Evaluation, 2016).

''Instructors need better preparation, sometimes instructors show lack of expertise'' (Female, employed, PhD Lifelong Learning, 2016).

''The statistics is lacking and not on par with other master programs in learning science'' (Female, employed, PhD educational Psychology, 2017).

''Missing point which created challenge would be not focusing more on technology enhanced learning. However, I heard this culture changed in the next cohorts with giving more importance on Moodle Creations/Tutorial Video Creations'' (Female, employed, PhD Evaluation, 2016).

4.2 Testing of Hypothesis

As mentioned in chapter 3, data to test the hypotheses in this study was collected from graduates who are employed. To begin the testing, the employed respondents were further

divided into two subgroups: academic and non-academic employment. Table 3 shows that 36 out of 39 of this study's respondent were employed in non-academic (20), i.e. working fulltime and part time, and academic (16) jobs.

For the first research question the answers of the two subgroups of the employed graduates were compared via the non-parametric Mann-Whitney U test. For all other research question the analysis of bivariate correlation by Pearson was used as method to search for statistically significant relationship among the provided answers. The survey items used in the analysis are from the question 11(Q11) and question 19 (Q19) of the questionnaire provided in Appendix B. All statistical tests were carried out with a significance level of 5%.

The main topics (I.-III.), the research questions (RQ1-RQ4) and the corresponding alternative hypothesis (H_1) and null hypothesis (H_0) together with the presentation of the results are as follows:

I. The career value of the RTL degree qualification

RQ1: What is the career value of the RTL degree qualification after graduation?

H_1: The career value of the RTL degree qualification will differ significantly between graduates employed in academic and non-academic professions.

H_0: The career value of the RTL degree qualification will not differ significantly between graduates employed in academic and non-academic professions.

Items 1 and 5 (see Q11 and Q19 in Appendix B) on the Likert scale measured the career value of the RTL degree qualification for the two groups and were therefore analysed to test the work hypothesis. The distribution of responses on these items among graduates in academic and non-academic professions as shown in Figure 3 and 4 indicated that the career value of the RTL degree qualification may be higher for graduates in academic professions.

In case of question item 1, 13 out of 16 graduates(81%) working in academia but only 12 out of 20 graduates(60%) working in non-academic positions agreed or strongly agreed to the statement that “the qualification was sufficient for the employment”. Regarding this statement, 4 respondents (20%) working in non-academic position took a neutral position but none of those working in Academia. The rest of the answers varied among the options “disagree” and “strongly disagree”. For a more scientific evidence, a Mann-Whitney U test for two independent samples on item 1 (see appendices 2 & 3) was performed with a significance level of 5%. The results of the statistical tests shown in Table 5 revealed a non-significant difference in the predicted direction indicating that the career value of the RTL degree qualification is higher for graduates in academic professions (*Mean rank* = 21.16) than for those who are in non-academic professions (*Mean rank*= 16.38), $U = 117.5$, $p = 0.178$.

In case of item 5, 14 out of 16 graduates(88%) working in academia but only 13 out of 20 graduates (65%) working in non-academic positions agreed or strongly agreed to the statement that “the qualification was crucial for the employment”. About this statement 4 respondents (20%) working in non-academic position took a neutral position but none of those working in Academia. The rest of the answers varied among the options “disagree” and “strongly disagree”.

In the same vein, a Mann-Whitney U test for two independent samples on item 5 (see appendix 2 & 4) with a significance level of 5% was performed. Results on this item in Table 6 showed a higher mean rank value for graduates in academic professions (20.88) than for those in non-academic professions (16.60). Although, this difference is statistically not significant (U =122, $p = 0.236$), it goes in the predicted direction of the stated hypothesis. Due to breaching, the targeted significance level in the Mann-Whitney U test, the alternative hypothesis (H_1) that the career value of the RTL degree qualification differs significantly between graduates employed in academic and non-academic professions must be rejected.

II. The relationship between the Skills acquired from the RTL program and the Graduates' current professions

RQ2: What kind of relationship exists between the skills acquired from the RTL program and the current professions of the graduates?

H_1: There is a statistically significant relationship between the skills acquired from the RTL program and the current professions of the graduates.

H_0: There is no statistically significant relationship between the skills acquired from the RTL program and the current professions of the graduates.

Data from responses on items 3 and 8 (see Q11 and Q19 in Appendix B) were analysed with the Pearson's correlation statistics to assess the relationship between the skills acquired from the RTL program and the jobs that are related to the curriculum of the RTL program. The Results in Table 7 show that there is a moderate positive relationship between these variables, *r* (.615), *n* =36, *p* = ,000. Based on this outcome, the alternative hypotheses (H_1) cannot be rejected. A practical implication of this finding can be that the closer related the job is to the RTL program, the more relevant the acquired skills are.

III. The relationship between the RTL curriculum or the compulsory internship and the current professions

RQ3: What kind of relationship exist between the RTL curriculum and the current professions of RTL graduates?

H_1: There is a statistically significant relationship between the RTL curriculum and the current professions of RTL graduates.

H_0: There is no statistically significant relationship between the RTL curriculum and the current professions of RTL graduates.

Items 1 and 3 (see Q11 and Q19 in Appendix B) provided data for this analysis. A Pearson's correlation statistics was used to assess the nature of the relationship between the RTL curriculum and the current professions of RTL graduates. The results in Table 8

suggests a high positive relationship between both variables, *r* (.709), *n* =36, *p* = ,000. Based on this outcome, the alternative hypothesis (H_1) cannot be rejected. It therefore be concluded that there is a strong positive relationship between the RTL curriculum and the current professions of RTL graduates. The practical implication of this could be that, the closer a position is related to the RTL curriculum, the more likely that the RTL qualification will be sufficient for the employment.

RQ4: What kind of relationship exist between the internship module and the current professions of the graduates?

H1: There is a statistically significant relationship between the current careers of the RTL graduates and their internship experience.

H1: There is no statistically significant relationship between the current careers of the RTL graduates and their internship experience.

A Pearson's correlation statistics was computed to assess data from the responses on items 4 and 7 (see Q11 and Q19 in Appendix B). Results in Table 9 showed a low-to-medium positive relationship between the current careers of the RTL graduates and their previous internship experience, *r* (.482), *n*=36, *p* = ,003. Based on this result the alternative hypothesis (H_1) cannot be rejected. The practical implication of this could be that the internship was more likely to help to get a placement if the advertised position was related to the subject of the internship.

5 Summary

5.1 Discussion of findings

This study was motivated by the research problem that there is a growing number of criticisms of Universities for producing overly specialized research graduates, who are unable to apply their expertise to the changing workplace environments and non-research topics (Manathunga, Lant & Mellick, 2007). To extensively examine this problem, this study provided an overview of research graduates' experience. It highlighted the linkage between professional, methodological and social competencies and the intended career paths of students of the master's program "Research on Teaching and Learning" (the RTL program).

The study had three main purposes – first, to investigate the career value of the RTL degree qualification. Secondly, to uncover the relationship that exists between the skills acquired from the RTL program and graduates' current professions. Lastly, to establish the relevance of the RTL curriculum and compulsory internship to the current professions of graduates. In agreement with these, four research questions were outlined. These questions were the basis for the study's hypotheses and guided the scientific enquiry.

The RTL Alumni Postgraduation Survey (RAPS) piloted in this study, investigated the post-graduation career experience with both Likert scale and open-ended questions. The Likert scale is considered a better representation of the general opinion of the studied sample respective to a particular topic. While the textual answers provided to the open-ended questions can be considered as sources offering rather specific but more in-depth qualitative information from the respondent.

The findings of this questionnaire study favour and extend the findings of some previous graduate tracer studies about the post-graduation career experience of graduates. In the following, the key findings of this study will be summarised and discussed in the context of results supplied by previous studies.

I. Career Paths

Overall, the results of this study demonstrate the positive impact of the Research on Teaching and Learning (RTL) program in this aspect. 70% of the participants involved in this study, who are also graduates of the RTL program, found jobs before graduation or within six months after graduation. Another 23% found their jobs more than six months after graduation. These are academic or non-academic jobs within private and public sectors. Additionally, this proportion of participants are employed in course-related jobs within a short period after graduation. This finding compares well to other graduate tracer studies in terms of the marketability of graduates from technical universities (Nkomo, 2012; Ramirez et. al., 2014). Also, the main job activities reported by the participants having non-academic employment, aligns with researchers who reported that a relatively high proportion of graduates of research-based programs find non-research-based position outside of academia (Kentish et. al., 2006). In addition, the career paths of this study's participants do not support the notion of other researchers about research degrees being mainly customised for careers in academia (Giles, et. al., 2009). Rather, it exposes the diversity of skills that research degrees, like the RTL master program, can provide.

Overall, the job roles of the participants working within academic and non-academic sectors, correspond with the intended career path of the RTL program. This is because they mostly work as researchers, administrators, teachers and trainers. This finding suggests that graduates of the RTL master program may manage the transition from academic to non-academic careers rather well. Unlike in previous studies (De Grande et. al., 2014), this study's participants have proven that graduates of research-based programs can have the required skills to fit into non-academic careers.

II. Value of the RTL degree qualification

The first research question of this study examined the career value of the RTL degree qualification after graduation. An analysis of Likert scale responses to a statement about the value of the RTL degree qualification showed that the career value of the RTL degree

qualification does not differ significantly between graduates employed in academic and non-academic professions. This suggests that the RTL degree qualification tends to be valuable for academic and non-academic careers to a similar extent. Prior studies in support of this finding reported that the Alumni of Education research from the University of London who completed their theses in 1992, 1997 and 2002, believed their research degrees had been beneficial for their career advancement (Leonard et. al, 2005). This finding also supports the discussion on the employability of graduates by researchers, who have pointed out that the likelihood of employment is no more a function of qualification alone. Rather it requires a mixture of employability, social networks and self-development (Ren et. al, 2017). In other words, irrespective of qualification, those who are proactive and take initiatives are more likely to improve their employability. This then enhances the rate at which they find employment.

Despite the highlighted above, a qualitative comparison of how participants perceive the career value of the RTL program varied to a large extent. Participants who work in academic positions were more positive in their responses to open-ended questions about the career value of the RTL degree qualification. All 16 of them reported that the program equipped them adequately and had greatly improved their research, scientific writing, teamworking and presentation skills, which are useful in their current professions. Meanwhile, the participants employed in non-academic sectors reported that the RTL program had left them unprepared for careers outside of academics. An explanation in favour of these varied reactions may be drawn from the graduates' initial motivation to enrol in the RTL program. This motivation according to researchers could be professional [improving or changing career paths] or personal [related to individual preferences and interests in certain research topics] (Golovushkina et. al., 2012). An alternative explanation could be that students are beginning to perceive the value of their academic qualifications as diminishing, in what is currently a congested and competitive graduate labour market (Tomlinson, 2008).

III. Usefulness of the skills acquired from the RTL program

As suggested by the second research question of this study, there is a relationship between the skills acquired from the RTL program and the current professions of the graduates. This finding contradicts the argument that the usefulness of skills rarely occurs within the field that one is trained and the applicability of these skills outside the field where it is obtained is questionable (Hager, 2006; Craswell, 2007). Moreover, this relationship was again observed in the participants' comments about the usefulness of the skills acquired from the program. Their comments confirmed that the skills gained from specific modules have been useful for their jobs. In fact, participants report that these skills have also been applied in some seemingly unrelated areas like Marketing, Hospitality, Project Management and Human Resources. This finding aligns with the report of prior studies where graduates claimed that they were generally happy with their acquired knowledge and technical skills, as these are useful and contribute to their job performance to a great extent. (Ramirez & Alcantara, 2014; Shongwe & Ocholla, 2011).

These findings also point to the possibility that graduates who consider the skills acquired from the program as supportive regarding their job performance, also consider their position as closely related to the RTL program. In other words, if a graduate is employed in a job related to the RTL program then the acquired skills tend to support the performance on the job [The closer related the job is to the RTL program, the more relevant the acquired skills are.] At least in the case of the RTL graduates, it may be argued that the participants have transferred their skills acquired from the program to both academic and non-academic jobs, similarly well. This is again in line with the report of researchers that some key features of such research-based programs as the RTL, are beneficial for enhancing graduates' critical judgement, analytical skills and ethical and social understanding (Manathunga, et. al., 2009). That may be then applied to their professional engagements after graduation. Another tracer study also reported that certain employers are more interested in the skills developed by the curriculum of research-based programmes than in the qualification itself. Such sought after

skills include research and analytic skills, project management skills and communication (Purcell et al., 2006).

Notwithstanding, the differing responses on open-ended questions about the relevance of the skills and knowledge acquired from the RTL program to the participants' current professions, revealed some gaps in the nature of the program. While the participants in academic employment are mostly confident in the skills acquired from the program, several respondents in non-academic employment seem to doubt their relevance to their jobs. This disparity was also observed in a study of science, engineering and technology research postgraduates (Giles, et. al., 2009). From this study, many of the graduates within academia, had changed several jobs on short-term contracts or as defined by grants or research funds. While those in jobs outside of academia, mostly experienced difficulties in the transition due to their skills not being valued or understood by their employers (Giles, et. al., 2009). Even though these unequal reactions are not in favour of the RTL program's objectives, it may suggest the existence of some gaps in the program and serve as a foundation for future improvement as described by Schomburg (2003, p.12). In this study, graduates expressed their disappointment about the *'unpreparedness'* and *'lack of awareness'* of their employability. Therefore, they stressed the need for more generic skills training and career counselling about where these skills can be applied outside of academia. This agrees with the suggestion that research-based programs could do more than paying generous attention to research. Rather, they should have a stronger focus on employability which would be beneficial for recruitment after graduation (Gardner & Craig, 2001, cited in Gedye, et. al. 2004). In this way, graduates may gain a better understanding of the knowledge, skills and experiences that they will need for acquiring the kind of jobs they desire. This will put them in a better position to plan for and attain a rewarding career.

IV. Relevance of the RTL curriculum

The third research question of this study revealed a positive relationship between the RTL curriculum and the current professions of RTL graduates. When the participants were

asked about the relation of the RTL curriculum as such, to their current job position, the responses provided on a Likert scale proposed that if a position is closer related to the RTL curriculum then there is a higher possibility that the qualification was sufficient to get the employment. Some qualitative comments go in the same direction, as graduates confirm that the curriculum of the RTL program have made it easy for them to get into academic or non-academic professions which come close to the training provided during the RTL program. This curriculum relevance that has been observed across the different professions and job roles of the graduates, could mean that the curriculum is responding to the needs of various industries. In this respect, RTL aligns with other programs, like the one examined in the tracer Study of a Philippine Private Higher Education Institution. Here graduates reported on the curriculum relevance of some courses and other school-related activities that are indeed relevant to their current employment (Bueno, 2017).

Although there is an observed positive relationship between the curriculum and the RTL graduates' current professions, graduates in both academic and non-academic professions (including those working in positions closely related to the RTL curriculum), have suggested improvement measures on some aspects of the RTL curriculum. These suggestions include more detailed course and practical work in the statistics and instructional design modules, adequate preparation of instructors and expansion of the curriculum to fields outside of academia such as Human resources, project management and Market research.

Several measures may be taken in order to address these suggestions. Many of the areas highlighted by participants in chapter 4 as needing more attention, may be easily addressed by shifting to a more varied range of learning opportunities and activities. Like in the report of Raddon and Sung (2009), the low level of unemployment and diversity of the participants' job roles in this study, are a good sign that the RTL program have produced graduates who can apply the skills gained from a research program in a variety of work situations. To move forward, teaching, learning and practical work may need to be realigned in order to place greater emphasis on the aspects of the curriculum, which are considered by

the participants as inadequate. This is not to suggest, however, that the curriculum and its delivery methods need a total overhauling.

V. Relevance of the compulsory internship

As hypothesized, findings of the fourth research questions revealed a low-to-medium positive relationship between the current careers of the RTL graduates and their previous internship experience. The compulsory internship, which is a key feature of the RTL program, was mentioned only by 2 out of the 36 employed graduates participating in the survey. These respondents reported that the internship experience was very helpful for developing the skills and a Network that eventually became an advantage for them while searching for their PhD positions. The implications of this positive relationship could be as follows: If the relation between the offered position and the subject of the graduates' internship was stronger, then the fact that the graduate accomplished this internship was more strongly weighted during the hiring process. This then provided a higher chance for the graduate to get that position. To put it short: the internship was more likely to help to get a placement if the advertised position was related to the subject of the internship.

5.2 Limitation of Study

Post-graduation career experience is a rather broad topic. This consequently posed some limitations to this study. Focusing on a single feature of post-graduation experience, for example, employability, career progression, satisfaction with the program or language proficiency, may be interesting for future research. Another limitation is the sample size of this study. Although we collected and evaluated the responses from around 50% of the RTL graduate population (a total of 79 at the time of this study), it is believed that an even larger sample size could have strengthened the generalization of the study's findings, especially those resulting from methods of quantitative analysis. Therefore, even though the research evidence in this paper comes from a sample that is considered to be a representation of the RTL graduate population, it is worth emphasizing that not all of the findings and issues raised here can necessarily be generalized to other departments or institutions of research-based

programs. An additional limitation is observed in the design of the online questionnaire. While the Likert scale questions were designed to force responses from all the participants, responding to the open-ended questions was optional and therefore only answered by a part of the participants.

5.3 Recommendations for Future Research

Given the limitations of this study, areas for future research may include longitudinal examination of participants' motivation to enrol in a research program and the impact that these may later have on their career paths. It will also be beneficial to understand more about how the skills acquired from research programs are viewed outside of academics. A better understanding of the extent to which these skills may be important for other fields would be also of interest.

Additionally, it would greatly support the growing literature of graduate tracer studies to conduct extended investigation on what other aspects can enhance the employability of research graduates within today's work environments. Aspects worthwhile to explore are among others, multilingual abilities, prior academic qualification and mobility of the Graduates. A potential further study could also analyse whether becoming employed sooner after graduation enhances the perceived value of the RTL degree qualification.

5.4 Conclusion

Given the research evidence in this paper, the RTL program offers a certain level of career flexibility that is clearly beneficial to graduates. The findings of this study suggest that the graduate experience of the RTL master program may need further scientific investigation and the program itself, some improvement measures if the aim is to produce even more marketable and employable graduates. Also, the literature from graduate tracer studies on research programs indicates that a range of skills are required to succeed on the job market outside academia. The participants of the underlying study did also share a similar view.

The opinion of participants (particularly those working in non-academic professions) who felt that the program had not prepared them for careers outside of academics is of concern. This is evident when considering the list of comments about areas for improvement and the need for more generic skills training that participants reported as necessary for successful performance on the job. Further investigation is required to determine if this is the same also for the proportion of RTL graduates returning to research positions in academia and whether there is visible gap between the needs of today's workplaces in a global economy and the types of skills that the RTL program primarily focuses on.

Participants themselves reported that the program is too STEM and education oriented. They identified that to facilitate the development of transferable skills, they would find the support of the faculty, as well as extensive practical cases during coursework, multidisciplinary research opportunities, and adequate preparation by the instructors very useful. Therefore, it is of essence that extensive research is undertaken to track RTL graduates' employment destinations as well as their career path. This will enable the faculty to improve the curriculum in a way that it more effectively produces employment-ready research graduates, who are similarly capable of filling leadership positions within the academic and non-academic sectors.

There is much more to learn about graduates' postgraduation career experiences from the viewpoint of the graduates themselves. Each academic program (and university) has its own distinctive features and situation but in the time of globalization, it is truly necessary to share ideas also across borders and to learn from the outcome of similar studies from universities in other countries. Although the present study has focused on one program of a German University, it is hoped that its findings can serve as a guide for future research focusing on postgraduation career experiences. It also could be a suitable base of comparison for studies specifically investigating research-based programs from other parts of the world.

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Tables

Table1

Frequency and percentage of participants by year of graduation and gender

		In which year did you graduate from the RTL program?						Total
		Missing	2015	2016	2017	2018	2019	
Gender	Female	2	4	7	6	8	7	34
	Male	0	0	1	1	1	2	5
Total		2	4	8	7	9	9	39

Table 2

Participants employment status by year of graduating from the RTL program

		In which year did you graduate from the RTL program?						
		2015	2016	2017	2018	2019	Missing	Total
Which of the following categories best describes your employment status?	Employed, Ph.D	3	6	3	3	0	1	16
	Employed, working full-time	1	2	1	4	5	1	14
	Employed, working part-time	0	0	1	2	3	0	6
	Not employed, further professional training	0	0	1	0	0	0	1
	Not employed, looking for work	0	0	1	0	1	0	2
Total		4	8	7	9	9	2	39

Table 3

Summary of participants' employment status

Employment Status	Frequency	Percent	Valid Percent
Employed, Ph.D	16	41.0	41.0
Employed, working full-time	14	35.9	35.9
Employed, working part-time	6	15.4	15.4
Not employed, further professional training	1	2.6	2.6
Not employed, looking for work	2	5.1	5.1
Total	39	100.0	100.0

Table 4

Summary of main activities and sector of current participants in non-academic employment

Main activities	Private sector	Public sector
	n (%)	n (%)
Teaching/Lecturing	3 (15)	1(5)
Learning and Development	5 (25)	-
Research	2 (10)	2 (10)
Administration	3 (15)	1 (5)
Project Management	-	1(5)
Human Resources	2 (10)	-
Total	15 (75)	5 (25)

Table 5

Summary of Mann-Whitney U Test on item 1 from Q11 and Q19 of RAPS

Ranks				
	Employment type	N	Mean Rank	Sum of Ranks
On the whole, the RTL qualification is sufficient for employment after graduation.	Academic	16	21,16	338,50
	Non-Academic	20	16,38	327,50
	Total	36		

Test Statistics[a]

	On the whole, the RTL qualification is sufficient for employment after graduation.
Mann-Whitney U	117,500
Wilcoxon W	327,500
Z	-1,455
Asymp. Sig. (2-tailed)	,146
Exact Sig. [2*(1-tailed Sig.)]	,178[b]

a. Grouping Variable: Employment type

b. Not corrected for ties.

Table 6

Summary of Mann-Whitney U Test on item 5 from Q11 and Q19 of RAPS

Ranks	Employment type	N	Mean Rank	Sum of Ranks
My RTL qualification was crucial for my employment.	Academic	16	20,88	334,00
	Non-Academic	20	16,60	332,00
	Total	36		

Test Statistics[a]

	My RTL qualification was crucial for my employment.
Mann-Whitney U	122,000
Wilcoxon W	332,000
Z	-1,283
Asymp. Sig. (2-tailed)	,199
Exact Sig. [2*(1-tailed Sig.)]	,236[b]

a. Grouping Variable: Employment type

b. Not corrected for ties.

Table 7

Summary of Bivariate Correlation on items 3 and 8 from Q11 and Q19 of RAPS

		The curriculum of the RTL program provided the opportunity to develop skills that are necessary to perform well on the job.	My job role is closely related to the curriculum of the RTL program.
The curriculum of the RTL program provided the opportunity to develop skills that are necessary to perform well on the job.	Pearson Correlation	1	,615**
	Sig. (2-tailed)		,000
	N	36	36
My job role is closely related to the curriculum of the RTL program.	Pearson Correlation	,615**	1
	Sig. (2-tailed)	,000	
	N	36	36

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8

Summary of Bivariate Correlations on items 1 and 3 from Q11 and Q19 of RAPS

		On the whole, the RTL qualification is sufficient for employment after graduation.	My job role is closely related to the curriculum of the RTL program.
On the whole, the RTL qualification is sufficient for employment after graduation.	Pearson Correlation	1	,709**
	Sig. (2-tailed)		,000
	N	36	36
My job role is closely related to the curriculum of the RTL program.	Pearson Correlation	,709**	1
	Sig. (2-tailed)	,000	
	N	36	36

**. Correlation is significant at the 0.01 level (2-tailed).

Table 9:

Summary of Bivariate Correlation on items 4 and 7 from Q11 and Q19 of RAPS

		The internship experience I had before graduation was crucial for my employment.	My job role is closely related to my internship experience.
The internship experience I had before graduation was crucial for my employment.	Pearson Correlation	1	,482**
	Sig. (2-tailed)		,003
	N	36	36
My job role is closely related to my internship experience.	Pearson Correlation	,482**	1
	Sig. (2-tailed)	,003	
	N	36	36

**. Correlation is significant at the 0.01 level (2-tailed).

Figures

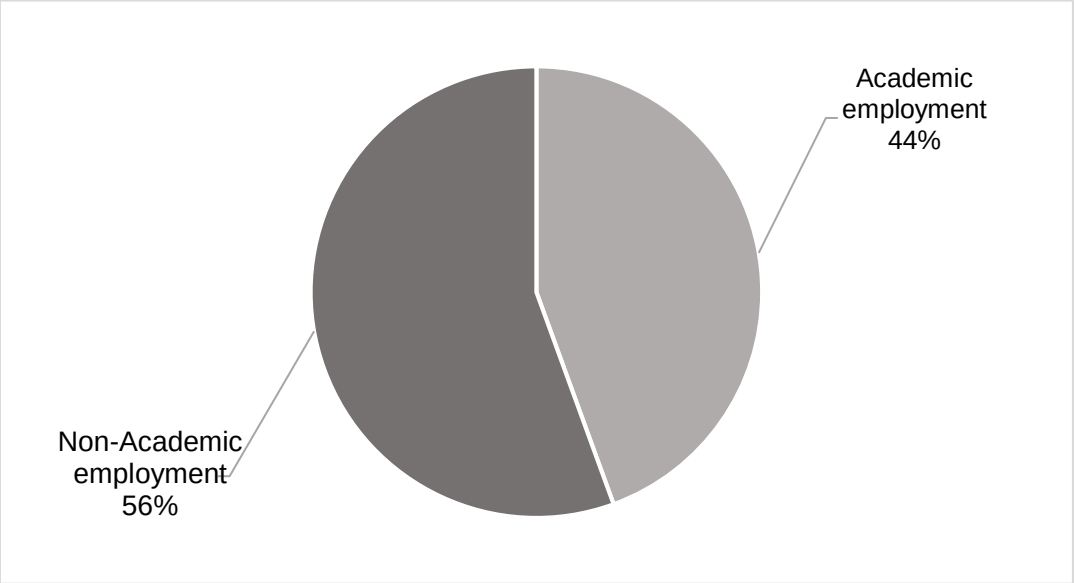

Figure 1. Percentage distribution of respondents' types of employment

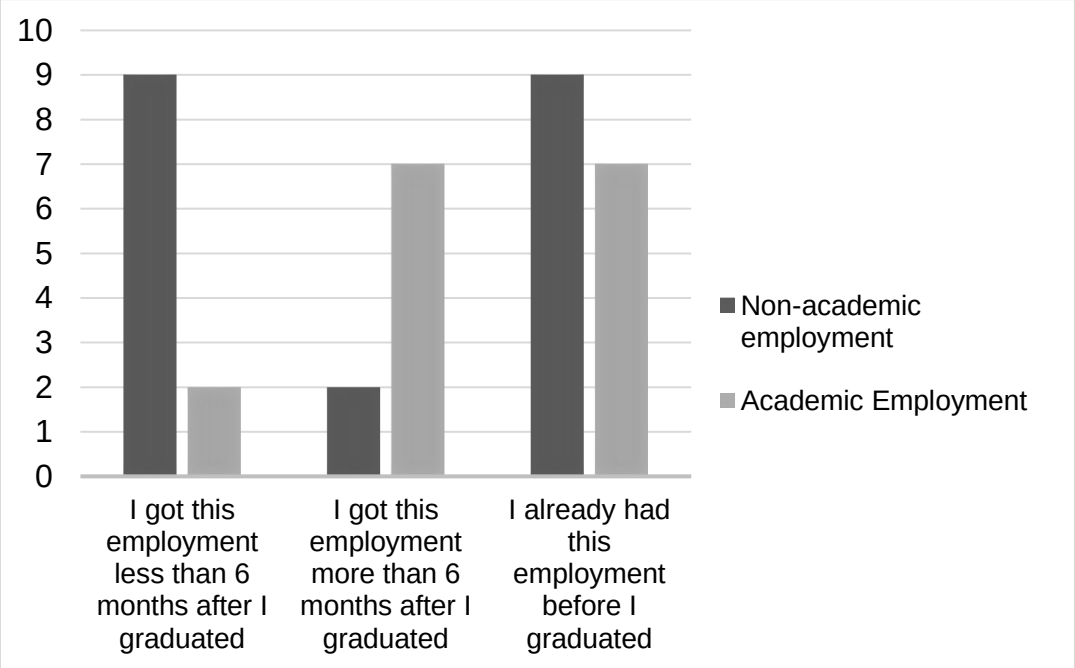

Figure 2. Distribution of the duration of search for academic and non-academic Employment

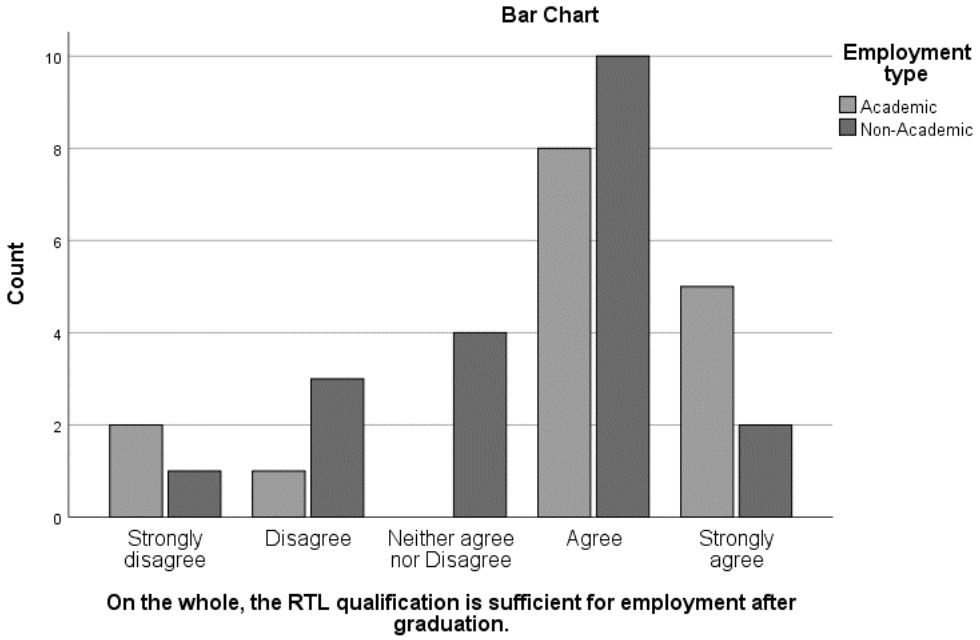

Figure 3. Distribution of participants responses to ‘‘On the whole, the RTL qualification is sufficient for employment after graduation.’’

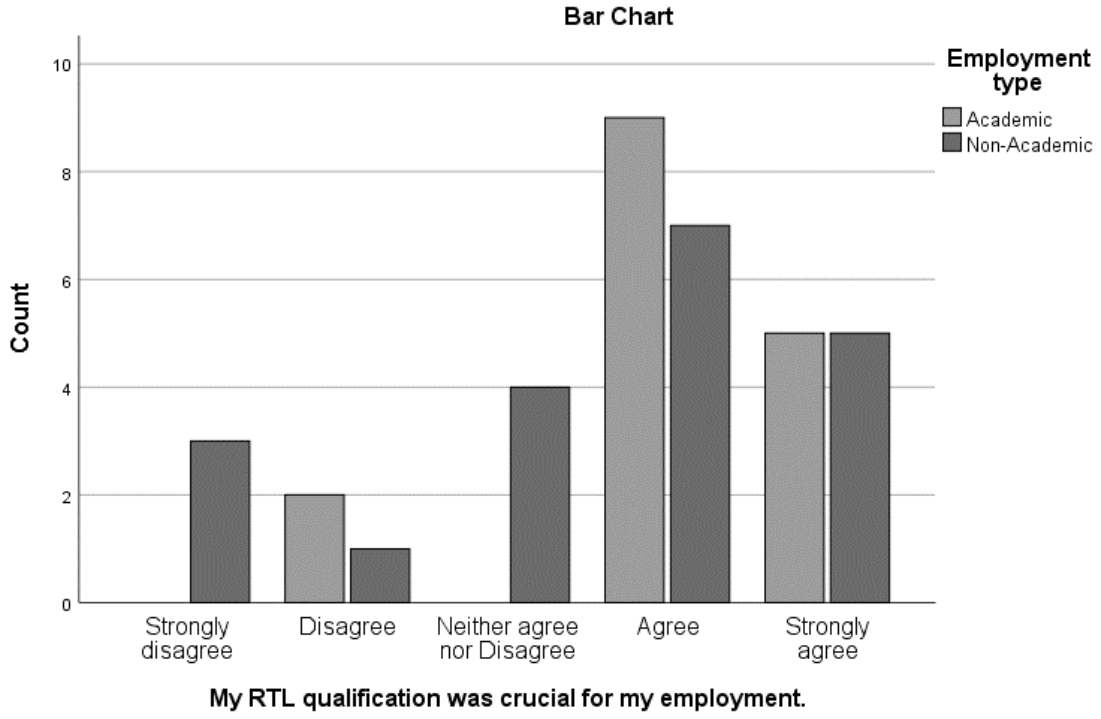

Figure 4. Distribution of participants responses to ‘‘My RTL qualification was crucial for my employment.’’

Appendix A: Questionnaire for Expert Interview

Thesis topic: Post-Graduation Career Experiences - A Questionnaire Study of the Master Program 'Research on Teaching and Learning (M.Ed)'

FOR EMPLOYED

1. In which year did you graduate?
2. What was the nature of your internship? (Academic internship or Non-academic internship)
3. Can you describe your present status (employed, unemployed, or Graduate/Professional School (Second Masters, Ph.d)

If `employed` continue with Q5 – 13

If `unemployed` continue with Q14 – 22

If `Graduate/Professional school` continue with Q5 – 12

4. Was your internship experience helpful for getting this job or the RTL degree itself?
5. What kind of employment do you have? (Full-time, Part-time, Self)
6. In what sector is your employment (e.g. Insurance, Education, Engineering etc.)? What are your main duties? (e.g HR, curriculum designer, Administration, Instructional design, Research Assistant etc.)
7. **A:** Is your current employment related to your RTL degree or your internship? Yes / No **(If ´No` ask question 8B)**
    - **8B** – Can you give reasons why your present job is not related to your RTL qualification/internship?
8. How long after graduation did it take you to find this employment?
9. If working in Germany, was the German language a necessary requirement for this employment? Y/N.
10. Do you feel that your educational experience at TUMED gave you the opportunity to obtain/develop skills necessary to perform your current job? (e.g your experiences from the internship, course content, group projects etc.)
11. Can you describe a challenge or value-added experience you have had as a graduate of the RTL program since your graduation?
12. Do you have any comments that you would like to make about any areas not covered in this interview?

FOR UNEMPLOYED

13. For how long have you been unemployed since your graduation from the RTL program?

14. Can you give reasons for this, if known? (e.g geographic preference, sector preference, language barrier, maternity, relocation etc.).
15. Are you currently seeking employment? If yes, what kind of employment do you seek? (Full-time, Part-time, Self employment). If no, can you say why?
16. Do you feel your internship experience/RTL qualification will help you get a job eventually?
17. What possible career paths have you considered as a graduate of this program?
18. Is it important for you to search for jobs that are related to your RTL degree or your internship? Y/N give reasons.
19. Do you feel that your educational experience at TUMED gave you the opportunity to obtain/develop skills that are required by today's employers? (e.g your experiences from the internship, course content, group projects etc.)
20. Can you describe a challenge or value-added experience you have had as a graduate of the RTL program since your graduation?
21. Do you have any comments that you would like to make about any areas not covered in this interview?

FOR PHD.

22. Was your internship experience/RTL qualification helpful for getting a placement to study? HiWi job?
23. What kind of graduate placement do you have (Phd, Masters, professional program etc.)?
24. What is the nature of your study (Full-time or Part-time)?
25. What is the area of your study?
26. Is your area of study related to your RTL degree? Yes / No **(If ´No` ask question 27B)**
    - **27B** – Can you give reasons why your current area of study is different?
27. How long after graduation did it take you to get this study placement?
28. If studying in Germany, was the German language a necessary requirement for getting this study placement? Y/N.
29. Do you feel that your educational experience at TUMED gave you the opportunity to obtain/develop skills necessary to perform your current study? (e.g your experiences from the internship, course content, group projects, inetracting with professors etc.)
30. Can you describe a challenge or value-added experience you have had as a graduate of the RTL program since your graduation?
31. Do you have any comments that you would like to make about any areas not covered in this interview?

Appendix B: RTL Alumni Postgraduation Survey (RAPS)

Standard: Informed Consent
Standard: 33 Questions

Page Break

Informed Consent

Welcome to the RTL Postgraduation Survey!

Hi,
My name is Obehi Itua and I am currently in the 4th semester of the Research on Teaching and Learning (RTL) program at the TUM school of Education. I am interested in understanding the Post-graduation experiences and the value of the RTL degree through the program's Alumni and that is why you have received this survey.

The survey aims at collecting relevant data for this study and I implore you to read each question carefully before you respond. Please be assured that your responses will be kept completely confidential. It should take you around 6 minutes to complete, and your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice.

If you would like to contact the researcher in the study to discuss this research and any other information you may need, please e-mail me - ga53reb@mytum.de or my thesis supervisor - jutta.moehringer@tum.de

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- ○ I consent, begin the study
- ○ I do not consent; I do not wish to participate

Skip To: End of Block If Welcome to the RTL Postgraduation Survey! Hi, My name is Obehi Itua and I am currently in the 4t... = I consent, begin the study

Skip To: End of Survey If Welcome to the RTL Postgraduation Survey! Hi, My name is Obehi Itua and I am currently in the 4t... = I do not consent, I do not wish to participate

End of Block: Informed Consent

Section 1: General Demographic Information

Q1 Please indicate your gender

- ○ Male
- ○ Female
- ○ Diverse
- ○ I prefer not to say

Q2 In which discipline did you receive your bachelor's degree?

- ☐ Natural Sciences
- ☐ Arts
- ☐ Social Sciences (e.g Psychology, Sociology, Political Science)
- ☐ Engineering & IT
- ☐ Education
- ☐ Medicine
- ☐ Law
- ☐ Others (Please fill in the text box) _____

Q3 In which year did you graduate from the RTL program?

_____

Q4 Which of the following categories best describes your employment status?

- ○ Employed, working full-time
- ○ Employed, working part-time
- ○ Employed, Ph.D.
- ○ Not employed, looking for work
- ○ Not employed, NOT looking for work
- ○ Not employed, further professional training

Skip To: Q15 If Which of the following categories best describes your employment status? = Employed, Ph.D

Skip To: Q33 If Which of the following categories best describes your employment status? = Not employed, NOT looking for work

Skip To: Q23 If Which of the following categories best describes your employment status? = Not employed, looking for work

Skip To: Q32 If Which of the following categories best describes your employment status? = Not employed, further professional training

Skip To: Q5 If Which of the following categories best describes your employment status? = Employed, working full-time

Skip To: Q5 If Which of the following categories best describes your employment status? = Employed, working part-time

Q5 In which country are you currently working?

_____

Q6 Which of the following best describes the sector of your employment?

- ○ Private
- ○ Public

Q7 Which of the following categories best describes the area of your employment?

- ○ Finance
- ○ Business management & Administration
- ○ Education & Training
- ○ Engineering & IT
- ○ Hospitality & Tourism
- ○ Medical and Health Care
- ○ Arts & Communications
- ○ Others (Please fill in the text box)

_____

Q8 What is your main job role? Please fill in the text box below.

- ○ Research
- ○ Social work
- ○ Human resources)
- ○ Teaching / Lecturing
- ○ Administration
- ○ Consulting
- ○ Learning & development
- ○ Others (Please fill in the text box)

_____

Q9 How long did it take you to find employment with your RTL qualification?

- ○ I already had this employment before I graduated
- ○ I got this employment less than 6 months after I graduated
- ○ I got this employment more than 6 months after I graduated

---

Q10 Is the official language of the country you work in required for this job?

- ○ Yes (Please indicate the required level) _____
- ○ Sometimes
- ○ Never

Skip To: Q11 If Condition: Yes (Please indicate the re... Is Not Empty. Skip To: In this section, please rate how Strongly....

Q11 In this section, please rate how Strongly you agree or disagree with each of the following statements and as it applies to you by placing a check mark in the appropriate box.

No.	Item	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Variable Measured
1	On the whole, the RTL qualification is sufficient for employment after graduation.						Value of the RTL degree
2	The internship experience during the program was helpful for finding employment.						Internship experience
3	My job role is closely related to the curriculum of the RTL program.						relationship of the current professions to the curriculum of RTL program
4	The internship experience I had before graduation is crucial for my employment.						Internship experience
5	My RTL qualification / degree was crucial for my employment.						Value of the RTL degree
6	The internship experience provided the opportunity to develop skills that are necessary to perform well on the job.						Skills acquisition
7	My job role is closely related to my internship experience.						Internship experience
8	The curriculum of the RTL program provided the opportunity to develop skills that are necessary to perform well on the job.						Relevance of the skills acquired from the RTL program

Q12 Can you describe a **positive experience** of the RTL program that is beneficial to your employer/profession? Please fill in the text box.

_____

Q13 Can you describe a **challenging experience** in your current employment that the RTL program did not prepare you for? Please fill in the text box.

_____

Q14 Do you have any comments about any areas not covered in this survey? Please fill in the text box.

- ○ Yes _____
- ○ No

Skip To: End of Survey If Do you have any comments about any areas not covered in this survey? Please fill in the text box. = Yes

Skip To: End of Survey If Do you have any comments about any areas not covered in this survey? Please fill in the text box. = No

Q15 In which country are you studying for your PhD? _____

Q16 Which of the following categories best describes the area of your PhD. research?

- ○ Health Education
- ○ Science Education
- ○ Lifelong Learning
- ○ Evaluation
- ○ Curriculum Planning and development
- ○ Others (Please fill in the text box)
- ○ _____

Q17 Is the official language of the country you work in required for this PhD position?

- ○ Yes (Please indicate the required level) _____
- ○ Sometimes
- ○ Never

Q18 How long did it take you to find a PhD position with your RTL qualification?

- ○ Before graduation
- ○ Less than 6 months after graduation
- ○ More than 6 months after graduation

Q19 In this section, please rate how Strongly you agree or disagree with each of the following statements and as it applies to you by placing a check mark in the appropriate box.

No.	Item	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Variable Measured
1	On the whole, the RTL qualification is sufficient for finding a PhD position.						Value of the RTL degree
2	The internship experience during the program was helpful for finding a PhD position.						Internship experience
3	My area of research is closely related to the curriculum of the RTL program.						relationship of the current professions to the curriculum of RTL program
4	My internship experience before graduation is crucial for my PhD position.						Internship experience
5	My RTL qualification / degree was crucial for finding a PhD position.						Value of the RTL degree
6	The internship experience provided the opportunity to develop skills that are necessary to perform well on my research.						Skills acquisition
7	My area of research interest is closely related to my internship experience. (21)						Internship experience
8	The curriculum of the RTL program provided the opportunity to develop skills that are necessary to perform well on my research.						relationship of the current professions to the curriculum of RTL program

Q20 Can you describe a **positive experience** of the RTL program that is beneficial for your PhD studies? Please fill in the text box.

_____

Q21 Can you describe a **challenging experience** in your PhD studies that the RTL program did not prepare you for? Please fill in the text box.

_____

Q22 Do you have any comments about any areas not covered in this survey? Please fill in the text box.

- ○ Yes _____
- ○ No

Skip To: End of Survey If Condition: Yes Is Not Empty. Skip To: End of Survey.

Skip To: End of Survey If Do you have any comments about any areas not covered in this survey? Please fill in the text box. = No

Q23 In which country do you live presently?

_____

Q24 Since when are you not employed?

- ○ Less than 6 months after graduation
- ○ More than 6 months after graduation

Q25 Please select reason (s) why you are not yet employed, if known.

- [ ] Job location preference
- [ ] Job preference
- [ ] Language Barrier
- [ ] Parental Leave
- [ ] Relocation
- [ ] Lack of experience/expertise
- [ ] Others (Please fill in the text box) _____

Q26 What type of employment are you looking for?

- ○ Full-time, PhD.
- ○ Full-time, Non-academic
- ○ Part-time, PhD.
- ○ Part-time, Non-academic

Q27 Is it important for you to seek an employment that is related to your RTL qualification?

- ○ Yes
- ○ Maybe
- ○ No

Q28 Is the official language of the country in which you live in required for getting a job.

- ○ Yes (Please indicate the required level) _____
- ○ Maybe
- ○ No

Q29 Can you describe a **positive experience** of the RTL degree that is beneficial to your search for employment? Please fill in the text box.

_____

Q30 Please briefly describe a **challenge experience** you have had in your search for employment with the RTL qualification, if any. Please fill in the text box.

_____

Q31 Do you have any comments about any areas not covered in this survey? Please fill in the text box.

- ○ Yes _____
- ○ No

Skip To: End of Survey If Condition: Yes Is Not Empty. Skip To: End of Survey.

Skip To: End of Survey If Do you have any comments about any areas not covered in this survey? Please fill in the text box. = No

Q32 Can you briefly say why you are undergoing further training in addition to your RTL qualification. Please fill in the text box below.

_____

Skip To: End of Survey If Condition: Can you briefly say why you... Is Not Empty. Skip To: End of Survey.

Q33 Can you briefly say why you are not looking for employment. Please fill in the text box below

_____

Skip To: End of Survey If Condition: Can you briefly say why you... Is Not Empty. Skip To: End of Survey.

End of Block: Block 3