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# PASSION AND COMMITMENT I TEACHING RESEARCH: A META-SYNTHESIS

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***Abstract***

***The presence of research in one's life is recognized to be important for fostering education and well-being. Through research, the value of man's life has improved from conservative to modern. Hence, life becomes not only meaningful but inspiring as well. Qualitative research has supplied rich data about the passion and commitment in teaching research for various cultures, populations, and activities, but to-date, there has not been a systematic review to identify if general patterns of passion and commitment exist in teaching research. By following a structure synthesis approach to qualitative meta-synthesis, the current exploratory study examined subjective experiences associated with teaching research to discover elements of the passion and commitment of research. Four higher-order themes were revealed; research methods teaching in general, research empowerment, attitudes, and self-efficacy. Complex interconnections between themes also arose and are discussed.***

***Keywords— attitudes, commitment, empowerment, passion, self-efficacy, & teaching research***

## I. INTRODUCTION

Passion matters because it motivates and encourages teachers. It's a motivational aspect that influences the success of the instructor. It pushes teachers to achieve a higher student achievement. Passionate teachers build an effective learning atmosphere and improve students' ability. Their courage and determination to their schools and the accomplishment of successful education is the product of their commitment and commitment (Mart, 2013). According to Calmorin & Calmorin (2007), the performance of students could be increased if current teachers remain up-to-date on the problems and developments of modern teaching approaches and techniques through reading similar studies or doing their own research., Similarly, it can be thought that by doing excellent research, the impacts and conventional appraisal of school research would be based on student efficiency and competitiveness. In the field of study, organizations and stakeholders can, depending on their focus, be involved in particular aspects of the effect. As Penfield, Baker, Scoble, & Wykes (2014) have pointed out, excellent science is intended to lead to fantastic things and, as such, one of the underlying factors for creating and transforming knowledge that can support society as a whole.

## II. LITERATURE REVIEW

Institutions in many countries are placing increasing emphasis on training students to conduct research, and most degree programs now contain a research methodology component. The need for expert teachers of research methods is becoming correspondingly more pressing (Wagner, Garner, & Kawulich, 2011). Research intensity has become the key indicator of the quality of universities. This raises the issue of how, and whatever at all, a research-intensive environment offers a better learning experience for students. One potential answer to this dilemma lies in research-related teaching (Magi & Beerkens, 2015).

In layman's language, research means searching for knowledge. The Merriam-Webster online dictionary expands this definition as a "careful that is done to find and report new knowledge about something." Authors of research textbooks, meanwhile, distinguish research from other ways of understanding the world as a "systematic inquiry that is designed to collect, analyze, and interpret data to understand, describe, or predict phenomenon (Mertens, 2015).

Specifically, qualitative research is more subjective than a quantitative research. This usually involves gathering, analyzing, and interpreting data based on observations made about the participants of the study. These data can be in the form of ideas, actions, symbols, metaphors, derived usually from in-depth observations and interviews. Qualitative research aims to interpret meanings, descriptions, and symbols. The researchers ask the participants to respond to some questions and further probe the answers by giving follow-up questions to get a thorough response to a certain question. There is no definite number of participants that qualitative research requires (Avilla, 2016).

Qualitative meta-synthesis is a process of discrete steps or phases that enable the researcher to identify a specific research question and then search for, select, appraise, summarize, and combine evidence to address the research question. This

process uses rigorous qualitative methods to synthesize existing qualitative studies to construct greater meaning through an interpretative process (Erwin, Brotherson, & Summers, 2011). Synthesizing research about a phenomenon of interest to a discipline can deepen the understanding of the topic and increase the transferability of the findings to a large group that the original findings of any individual study.

There are multiple approaches to qualitative meta-synthesis. An example is framework synthesis which brings together the facts of multiple qualitative studies by categorizing data using a priori codes informed by past research, theory and consensus of a team of researchers. The use of priori codes guides the direction of analysis, but does not eliminate the possibility of adding de nova codes that may surface throughout the process (Dixon-Woods, 2011). Several studies utilized meta-synthesis in varied forms from multiple disciplines. Thunder & Berry (2016) reported that through a process of qualitative research meta-synthesis, knowledge-based can be widened to provide insights into attitudes, perceptions, interactions, structures, and behaviors relevant for mathematics teaching and learning. According to Lachal, Levy, Orri, & Moro (2017) meta-synthesis offers an appropriate balance between an objective framework, a rigorously scientific approach to data analysis and the necessary contribution of the researcher's subjectivity in the construction of the final work.

Furthermore, Abbarker (2013) stated that qualitative data in meta-synthesis is useful for providing a snapshot at one person's interpretation of an event or phenomenon. By bringing together many different interpretations that are strengthening the evidence for an interpretation by discovering common themes and differences and building new interpretations of the topic of interest shows the use of this method. In the same vein, the results from the meta-synthesis of the 11 studies revealed 8 themes namely: leading countries in prescribing, views, features, infrastructures, benefits, disadvantages, facilitators and barriers of nursing prescription that are discussed in the article (Darvishpour, Joolaee, & Cheraghi, 2014).

Moreover, the study of Rumble (2014) follows framework synthesis approach to qualitative meta-synthesis, examined positive subjective experiences associated with occupation to uncover elements of the meaning of occupation. Two higher-order themes were discovered, social meaning and selfhood, that contained multiple themes as well as four additional themes including satisfaction, pleasure/enjoyment, stimulating, and health and well-being. Multifaceted interconnections between themes also arose and are discussed.

## II. METHODS AND MATERIALS

The current exploratory analysis is part of a broader, continuing study of the attributes of research teachers and the success of their pupils. The centrality of subjective knowledge in interpreting meaning in the zeal, engagement and devotion of research teachers has been discussed. Taking into account and operating within the system synthesis method, the researcher has developed four priority codes for the implementation of the data: 1) Teacher's love for teaching testing approaches in general; 2) dedication to research related to research support; 3) commitment to teaching research related to attitudes; and 4) commitment to research related to self-efficacy. For the purposes of this review, the meta-synthesis only followed with an overview of the enthusiastic experience of the pedagogical method, the willingness to promote science and the dedication/responsibility to research, as these three priority codes were commonly contained in the results.

### Preliminary Work

Primary research papers for this thesis have been associated with many indexed journals due to their emphasis on explaining the strengths of research teachers and the productivity of their students. The papers used in this analysis used a sort of qualitative approach used to study teaching science. Studies were included only if the use of qualitative approaches was clear and the researcher's personal narratives or first-hand knowledge relevant to data mining research were generated. Further papers were included only if the specific purpose of the authors was to be clarified in the context of the study. During this process, twenty-three papers were chosen, which were published between 2006 and 2017. Descriptive material on each article is illustrated in Table 1.

**Table 1. Descriptive Information of Primary Articles**

| Authors and Date | Index / Database | Method | General Approach to Teaching Research |
|---|---|---|---|
| Aguado (2009) | Scopus | Narratives of literature reviews | Learning by doing/ hands-on approach to learning empirical research methods. |
| Alshery (2014) | Elsevier | Comparative case analysis | Academic writing of research, how is it taught, learned and practiced. |
| Bakshi, & Golshan (2016) | ESCi Journals | Action research | Planning, Action, Observation, Reflection (PAOR) |
| Baxter & Jack (2008) | Creative Commons License | Case study designs: | Develop theory, evaluate programs, and develop intervention |
| Bissesar (2015) | *ERIC | Narrative Review | Transformative learning tool, andragogy, and reflective praxis |
| Bocar (2013) | SSRN Electronic Journal | Descriptive - Qualitative | Open-ended questions on difficulties encountered in research and its effect on their research output |
| Elliot (2006) | Routledge Taylor and Francis | Action research | Overcoming the gap between theory and practice; and establishing a database for theory building |
| Fareh & Saeed (2011) | Elsevier | collaborative action research | Problem, Students, Desired learning outcomes, Information, Action Plan |
| Healey, et al. (2010) | *Taylor and Francis | Case study | Research-led Research-oriented Research-based Research-tutored |
| Hiep (2006) | E-Journals Database | Ethnographic study | Document reviews and interviews the research process in terms of support, education, and dissemination |
| Imafuku, et al. (2015) | Creative Commons | Pheno-menography | Semi structured interviews as pre and post reflections thematic analysis |
| Linden, et al. (2012) | Routledge Taylor and | Observational research | Critical self-reflection and self-evaluation. The ability to observe, |

| | | | |
|---|---|---|---|
| | Francis Group | | analyze, and interpret teacher accountability |
| Maduekwe & Esiubu (2011) | Google Scholar | Descriptive qualitative/ Exploratory | Profiling and measuring the challenge of conducting research and open-ended items |
| Massey, Allred, et al. (2009) | AACTE | Phenomenology & Action Research study | Data triangulation of a teacher educator and five of her former students who completed a research project. |
| McLindenet al. (2015) | Elsevier | Descriptive survey | Research Informed Teaching Approaches *Research-based *Research-tutored *Research-led *Research-oriented |
| Mehrani (2015) | ERIC | Phenomeno-logy | Empirical investigations of teachers' level of engagement & motivation in research |
| Miller (2014) | AALL | Case study | Personal development plan based on the research skill contribution to Wikipedia |
| Munabi, et al. (2016) | *Creative Commons | Qualitative phenomenological | Didactic approach and problem based learning approach |
| Nazha, et al. (2015) | *Creative Commons | Focus Group Discussion | Semi-structured interview guide and transcribed thematically |
| Strauss (2006) | Routledge Taylor and Francis Group | Auto ethnography | Examine the gap between the espoused principle and actual practice on the dilemmas and challenges of teacher-research |
| Thwala (2014) | *Google Scholar | Case study | Quality in teacher training *Input criteria *Process criteria *Output criteria |
| Ulla, et al. (2017) | *ERIC | Qualitative-descriptive | Reflective practice and teacher as researcher to discover and solve the problems in the classroom teaching. |
| Van Hoof (2015) | *Scopus | Ethnographic study | Study abroad grant program and attract international scholars to assist in their research and development efforts. |

In order to assess the efficacy of the prior codes used in the extraction of results, each of the reviewers independently obtained observations from a test article that were not used in the current report. The trend has been updated several times and reviewed again on the article before consensus has been reached between the researcher and the consultant. Both of them applied the priori coding scheme to the study findings in the results section of one of the twenty-three papers. The collected data has been cross-checked and disagreements have been resolved by a consensus study debate. The most widely used code was the subjective experience of research-related knowledge accompanied by research assistance.

In comparison, "fun jobs" can be helpful when teachers do the basics of academic writing or study paper development. This is focused on the idea that the fostering of student participation in science relies to a large degree on the imagination of teachers and the attractiveness of classroom activities, and that learning may be best achieved when students are inspired and enjoy learning at the same time (Bernardo, 2010). In a broad context, teachers concluded that more cooperation and commitment with contemporaries in the sharing and exchanging of teaching methods was beneficial in creating more successful pedagogy (Chi-kin et. al, 2010).

## Current Study

Data on subjective intelligence perception were grouped and then linked to each other to recognize recurring themes across categories. This progression involved both inductive and deductive logic, as the researcher switched back and forth between statistics and data-based themes. A network figure was created to explain the important relationship and allow the researcher to appreciate the dynamics of the interrelated themes of significance (see Fig. 1). The neon orange on Recognition of Teaching Research in general is accompanied by its sub-themes emerging as instruction, encouragement and inspiration. Creativity in Teaching Research is reflected in the green apple accompanied by fascinating, encouraging and fun sub-themes. The last theme in neon sky blue is the Productivity of Science, which rewards, encourages and risks as a sub-theme.

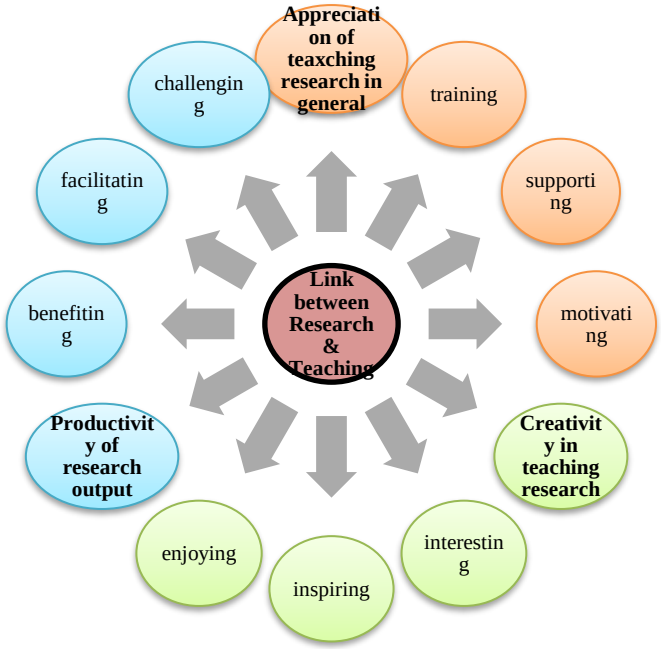


*Fig. 1: Network diagram of the Study*

## Results

Depending on the information processed, emerging trends followed, such as Study Empowerment, Affective/Attitudes, and Self-Efficacy, having closer frequencies with each other. The number of papers in each theme, as well as the cumulative occurrences of each theme, are included in Table 2.

The highest frequency of themes has been identified to be of a pedagogical type. Researchers accept that there are longstanding obstacles to teaching research methods, regardless of analytical methodology, discipline or year level (Groessler, 2017). The results of Gilmore (2010) suggest that certain aspects have led to graduate students' evaluations of their study and teaching abilities, such as their personal beliefs and teaching habits. Other connections to enthusiasm and creativity in teaching: inspired teachers find expression in

knowledge of the purpose of the profession, commitment, persistence and orientation towards professional objectives (Walt, et al., 2013). However, the Cadez, Dimovski, & Groff (2017) survey revealed that the effectiveness of research is not related to teaching quality, while the quality of research is completely related to teaching quality.

**Table 2: Frequency of themes**

| Theme | Number of Articles | Frequency |
|---|---|---|
| 1. Research methods | 23 | **73** |
| teaching in general | 5 | 13 |
| 1.1 Development | 5 | 7 |
| 1.2 Training | 14 | 23* |
| 1.3 Encouraging/supporting | 6<br>5 | 13<br>8 |
| 1.4 Profession | 5 | 9 |
| 1.5 Motivation | | |
| 1.6 Understanding | | |
| 2. Research Empowerment | 23<br>8 | **52**<br>20* |
| 2.1 Time | 6 | 11 |
| 2.2 Impact | 5 | 13 |
| 2.3 Inquiry | 5 | 8 |
| 2.4 Interesting | | |
| 3. Affective/Attitudes | 23 | **51** |
| 3.1 Challenge & quality | 24<br>8 | 31*<br>17 |
| 3.2 Reflection | 5 | 6 |
| 3.3 Academic | | |
| 4. Self-efficacy | 23 | **35** |
| 4.1 Experience | 8 | 13 |
| 4.2 Collaboration / Participation | 16 | 22* |

*highest frequency

### *Encouraging*

Encouraging was the most frequently identified subjective experience identified within the studies. When the teacher-respondents were asked as to the kind of support they need in order to do research, most of them said that they need the support from the school's administration in terms of conducting and participating in research training seminars (Ulla et al., 2017).

Moreover, Hiep (2006) narrated that among the seven teachers, two had the chance to have attended and presented in international conferences thanks to the grants obtained from overseas organizations. Similarly, Vah Hoof (2015) said:

> *"I could not expect too much from my local colleagues as they had not had any formal research education. Yet, at the end of the year…By combining local interest and limited resources, international experience and expertise, and some support from my own graduate students at home who took care of some data analyses, we were successful."* (p. 66).

### *Profession*

Several benefits for teachers engaging in research have been reported. Valica & Rohn (2015) employed a study to examine the possible benefits of an action research. The outcome of the study indicated an increase in teachers' competence and self-confidence since they had the opportunity and responsibility of solving teaching problems through experience. In doing research problem, students needed to collect and analyze data on their own initiative in order to investigate what they want to know. This means in transition from direct instructional context to student-centered learning context. S4 said:

> *"I've got used to obtaining knowledge by listening to teachers since I was a child. It was a kind of first time to work out a plan for the research project by ourselves. I realized the importance of actively study something in my career as a medical doctor through research design, data collection and analysis in the course."* (Imafuku, et al., 2015; p. 52).

### *Development*

It is through research that simple questions regarding aspects of the environment are operated to achieve development objectives. When research is properly focused and conducted it is absolute catalyst for national development as it serves to create information and knowledge which may be developed and delivered in a form that has useful and continuing benefits in applied, economic and social terms (Maduekwe & Esiobu, 2011) In addition, Bissesar (2015) recounted reviews on the teachers' willingness to embrace action research and disseminate a culture of inquiry-based research evident in every classroom. One of his respondents stated:

> "*I implement real-life ideas into my pedagogy and I interact and observe more than I did before and try to think of students' individual needs and their development and how I can make my instructional delivery more effective." (p. 186).*

### *Understanding*

The findings across five diverse studies specified that understanding in research especially to novice researchers the opportunity or describe a occurrence in context using a variety of data sources. It allows the researcher to explore individuals or organizations, simple through multifaceted interventions, relationships, communities, or programs as Yin( 2003) underscored:

> *"Novice researchers should also plan for opportunities to have either a prolonged or intense exposure to the phenomenon under study within its context so that rapport with participants can be established and so that multiple perspectives can be collected and understood and to reduce potential for social desirability responses in interviews."* (Baxter & Jack, 2008; p. 556).

### *Motivation*

Further research is needed on the development of students' research expertise in relation to their motivation to actually carry out research activities in their practice (Linden, et al., 2012) as well as reward researchers and motivate academic staff to pursue research more vigorously than in the past (Madaukwe & Esiobu, 2011).

In this subtheme, it was concluded by Healey det al. (2010) that students readily identified a series of benefits that they felt resulting from their tutors' interests in research saying:

> "*For these students the most positive facet of being taught by research-active staff was considered to be their enhanced enthusiasm and motivational abilities. They tended to associate staff involvement in research with up-to-date knowledge and believed such tutors to be more able to assist research."* (p. 6).

### *Training*

Attending and participating to research trainings, and receiving research motivations were what the teachers perceived they need to do research. Across five studies, the most predominant and reliable to classroom teachers in is the availability of research trainings and seminars for them to attend (Ulla, et al. 2017).

The enablement to do research was found to be an important article of the passionate teacher in teaching research. Involvements in which the individual felt the love of learning

from teaching make progress in understanding the complexity of teaching. Santagata et al. (2010) calls that:

> *"As we change our expectations of what our children should learn in school to keep up with advances in knowledge and technologies, our list of things that teachers need to know seems to grow ever longer."*

From the experience of Fareh & Saeed (2011) in relation to the teacher as researcher in the context language teaching, action research promotes the teacher's understanding of the teaching process and enhances their problem solving knowledge and skills. Once a teacher feels that his action research has been productive and has led to solving a certain problem, his confidence builds up and he becomes more prepared to take risks by examining more teaching problems and finding solutions.

***Time barrier***

Research requires time. This is the highest frequency along the subthemes encountered difficulties by the researchers. It is rewarding when the goal to finish it is attained on the target date. Then Bocar (2013) emphasized that utmost of the time research work is found to be a boring and very tiring work to do; however, teachers and students cannot get away from this work because most often this is an academic requirement. One of the respondents of Massey et al. (2009) explains:

> *"I do not think, however, that I can constantly be conducting research by collecting data, analyzing data, etc… in a formal sense. The research process does take time and resources that are not always readily available to the classroom teacher. In other words, while I am constantly looking for ways to improve my practice and thus my students' learning, I cannot conduct formal research on a consistent basis…this goes back to the idea of the balancing act."* (p. 54*)*

***Inquiry***

Being methodical, planned, and self-critical inquiry about one's work are all forms of practitioner enquiry of teacher research (Borg, 2006). A passage from their final journal entry stated:

> *"To my surprise, this was not your average research or even like any other research that I have ever completed at all. And as I learned, this research would never really be complete. In fact, this particular research did not just lead to me earning an extra three credit hours and being one step closer to graduation. It also did something far greater and out of the ordinary. It empowered me."* (p. 49).

Morover, Fareh & Saeed (2011) supports the view that a teacher should be an agent for change in his educational environment. He addresses teachers, saying:

> *"You are an agent for change in a world in desperate need for change: change from competition to cooperation, from powerlessness to empowerment, from conflict to resolution, from prejudice to understanding."* (p. 155).

Align to this theme, students' perceptions of research as appeared to be common that an inquiry and an evidence-based medicine approach are complementary processes in that they include recognition of important questions, examination for the best research evidence, critical assessment of the evidence, and presentation of the suggestion to practice (Imafuku, et al., 2015).

***Impact***

Within the six articles, research productivity is associated with the impact both to students and teachers. The findings of Kwon, et al. (2015) shows that there is a relatively higher proportion of research subsidy that is given to male researchers, as well as the social tendency to recognize the research output of males than that of female researchers while Van Hoof (2015) posited:

> "*I feel that I have been able to expose Ecuadorian faculty members in the hospitality and tourism area to the research process by working with them on several research studies…again, it took a while before we could initiate our studies…I first had to conduct several seminars on the various components of the research process."* (p. 66).

**Interesting**

This theme outlines ways to show research teachers' interest in gaining practical knowledge of how research is done. Emphasis is place on research methods and writing up results. In this process, students gain an appreciation of the fruits and frustrations of research involved and learn to be more critical consumers of research projects. Promising students to effectively write research papers helps to develop state-of-the-art graduates and can enhance learning practices by refining the content of the project at all levels (Alshery, 2014).

> *"Students found their fieldwork to be the most exciting part of the semester-long project…They also learned about the challenges of operationalization, and of finding ways to measure the abstract concepts that interested them."* (Aguado, 2009; p. 256).

***Attitudes***

From the selected ten articles with a total of thirty eight frequencies among its sub-themes, the focus is mainly on describing research teachers' skills and their attitudes towards conducting and using research in practice as areas which develop simultaneously. The study of Nazha, et al. 2015) shows that research and medicine are complementary to each other and that research involves other disciplines. Moreover, their previous perceptions that research would be difficult for students, and they felt it became possible after this course, as well as being relevant to clinical practice:

> "*At first, I thought we should be doctors and have ten years of practice before we could go into research, but I learned that I can start research now."* (First Year 7, p. 5).

***Reflection***

As a subtheme having seventeen frequencies, the researcher reflects on, evaluate and explain the effects of the action in order to make sense of what has happened. Many trainee teachers' said that they aspire to conduct research primarily because they wanted to improve the problem of teaching and learning. They claimed that doing research is also a process going into a new knowledge and analyzing situations from an intellectual point of view (Maduekwe & Esiobu, 2011). For example, Respondent A said:

> *"For me I think as students we need to do research, but research for us basically means reflection of our practices, on a particular classroom problem to find out ways to improve our work."* (p. 62).

***Quality and Challenge***

Quality and challenge in research are dynamic and going development. These subthemes are integrated having twenty eight frequencies taken from the twenty three articles. Quality is a very complex term to define in one sentence or one feature. According to Thawla (2014) quality can be seen as the degree

of goodness or value of a school or characteristics of how good or bad that thing is. The exploration reveals that quality in early education depends on quality in the universities. His paper suggests:

> *"There is a need for baseline researches that will seek a better understand of human capacity needs of the countries in Southern Africa in order to design appropriate professional development training programs."* (p. 1720).

### *Self-efficacy*

The last theme indicates how research-based academic literacy skills increased. This became apparent to most of the researchers to follow up on their work. The findings of Miller (2014) revealed that despite some technical difficulties in using Wikipedia site, many students valued the opportunity to write for a real audience and not just for lecturer as an incentive to improve their writing and research skills. Quality feedback was mixed, but overall the experience seems to have been positive:

> *"I think the Wikipedia task was helpful, it gave more of an insight onto how to use referencing and use Wikipedia. Although it is too bad that it is frowned upon to use in normal research. if we really wanted too!"* (p. 81).

### *Collaboration / Participation*

This sub-theme is connected with self—efficacy with the frequency of twenty two among the eleven articles. Teachers' engagement with research has long been advocated to enhance their professionalism. Bakhshi & Golshan (2016) reported that teachers' engagement in collaborative action research had some benefits such as having more opportunities to collaborate and understanding others pedagogical beliefs. An evident remark from a teacher coordinator:

> *"It helps promote and gradually shape the school culture that teachers become more open-minded and innovative and t he courage to take the first step to explore and attempt new teaching practice. Also, participating teachers may play a more active and even leading role in constructing a new school climate*."(p. 8).

### *Abilities / Skills*

Teachers need to ask themselves what can be done to improve their students' learning. The last sub-themes indicate on how teachers can resort a number of strategies such as attending refresher course, seeking guidance from mentors, registering for higher programs of learning or they can learn to conduct research pertaining to specific issues identified from their own classrooms (Hei & David, 2017) The following excerpts mirror their views:

> *"There is so much talking about improving ones teaching through action research… And if we need extra help like funds, materials…then the principal has to come in…see in what way he or she can help* (Meerah & Ahmad, 2002; p. 19).

## Discussion

Teachers' passion and commitment are elusive concepts in contributing their students productivity coupled with dedication as part of their meaningful experience. Researchers do, however, agree that there are longstanding challenges around teaching research methods, regardless of methodological approach, discipline, or year level (Groessler, 2017) Consistent with this view, the subject of linking research and teaching is attracting significant international attention from both policy makers and academics (Healey, et al., 2010). Therefore, identifying subjective experiences associated with the passion of teaching research is a reasonable endeavor so as to uncover research productivity.

The findings of this study suggets the similarities in passion and commitment associated with research across many countries, for multiple populations situated in several different cultures. Passion and commitment seems to have universal importance, because it helps individuals make sense their actions and behaviors, as well as the world around them.

In many cases, the purpose of research may be organized into three groups based on what the researcher is trying to accomplish, explain a new topic, describe social phenomena, or explain why something occurs. Exploratory research helps ensure that a more rigorous, more conclusive future study will not begin with an inadequate understanding of the nature of the problem from the first theme (Almeida, Gaerlan, & Manly, 2016).

Research Methods Teaching in General has a bearing of multiple factor, such as lack of research knowledge and skills, heavy teaching loads, and lack financial support from the schools obstructed teachers from doing it. Attending and participating to research trainings, receiving research incentive, and having lighter teaching timetable were what the teachers perceived they need to do research (Ulla, Barrera, et al., 2017).

The second theme focuses on Research Empowerment. Page and Cuba as cited in Fandiño (2010) claim that empowerment is a multi-dimensional social process that helps people to gain control over their own lives and society, by acting on issues they define as important.

The theme of time is associated with research empowerment. In many contexts where the conditions specified so far exist, teachers may still not feel they are able to engage in research because they do not have time. Combined with the absence of many of the other conditions conducive to teacher research outlined here, a lack of time can act as a powerful hindrance to the promotion of teacher research (Borg, 2006).

Students' perceptions of peer- organized extra-curricular research course are attributed to the theme, impact. The findings of Nazha, et al. (2015) indicate the students' perceptions of research changed after the course from being difficult initially to becoming possible. This goes to show that these research courses may be useful option to promote research interest and skills of students when gaps in research education curricula exist.

An engaging teacher in research is someone who is actively reflected and makes change in their teaching process. Inquiry and interest as sub-themes that revolutionize and institutionalize are associated in the article of Bakhsi & Golshan (2016). The results indicated that trained teachers have gained more knowledge, developed pedagogical content information and enhanced research skills.

Third theme, Research Attitudes is basically means a detailed study of thinking, feeling and the person's behavior towards research. According to Nor (2017), it is important to identify the attitudes towards research so that a positive attitude can be developed among students and hence their learning can be facilitated in turn. This assertiveness is important for their acceptance continuously carrying out and using research in the following years of their teacher education, and the role research will play in their future teaching profession.

The conclusion of Meerah & Johar (2002) is associated with the themes quality and reflection. It is found that having the knowledge and skills to do research does not necessarily mean teachers will be involved in action research. This implies that effective doing in research courses should be directed towards changing the attitudes of teachers and the fostering of self-reflection in their practice instead of only providing them with the skills and knowledge in their classroom duties.

With relevance to the 21st century skills, the article of Fandiňo (2010) is associated with research empowerment. It ends by stating that teachers should resort to action research not only to gain and exercise power, but also to make way for self-development and professional growth. As can be deduced, reflective teaching is empowering. It motivates teachers into becoming actively involved in articulating the nature of their work and in extending the knowledge base of their own teaching (Hei & David, 2017). As demonstrated by the current study, the subjective experiences that contributes to the passion and commitment of teaching research contributes to the meaning of research productivity also serves to motivate further commitment in research.

The last theme, Self-efficacy explores some of the challenging issues that were raised for teacher-researchers. One of the fascinating phases of the teacher in research is an attempt to get closer to the students learning given a greater understanding of them. Fareh and Saeed (2011) reports that teacher can utilize action research as a vital means for promoting learning outcomes and solving teaching problems encountered in the classroom. Teachers' abilities and skills in teaching research are attributed to the findings of Knight, et al. (2016). Students reported positive learning experiences about the research process, including ethics; protocol writing; dissemination of findings and results; and their use in informing a health promotion intervention. This directs the effective use of integrated approach in practical research competencies. Van Hoof's (2015) study describes the initiatives and focus of Ecuadorian government in solving the low research capability and research productivity. Whereas Aguado's study (2009) reveals learning by doing in teaching research methods with outlines goals and objectives, and includes a list of assignments that culminate in a presentable work of original research. This means that integrating ordinary scientific processes into an action-oriented course application offered students an interesting alternative that enhanced their desire and abilities to learn.

**Conclusion**

Research is fundamentally an intellectual and creative activity. The mastery of techniques and processes does not give research competence, though these skills may help the creative problem-solver to reach the objectives more efficiently. The current exploratory resulted in the identification of many themes of research, as well as complex interconnections between themes, across multiple studies. The veracity of these themes is supported by interdisciplinary literature, strengthening the possibility that the findings of this study are transferable across different populations and researches.

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