

# The Model for Application of Research Solution-Focused Andragogy in Higher Education: A Meta-Synthesis

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**Abstract:** Higher education research in South Africa presents huge and complex problems that often inhibit timely throughput and leaving student exiting the learning space without the acquisition of the intended qualifications. Literature that tracked throughput progress at different South African institutions of higher learning between 2009 and 2016 found out that only 30 percent of students completed their studies. Further studies that investigated the cause of low postgraduate throughput at South African universities found out that research language, research teaching and research utility were core precursor to the problem currently experienced. This study was a qualitative meta-synthesis framed according to the PICO (Place, Intervention, Comparison, and Outcome) whereby the best models for application to solve existing andragogic impediments were explored. Hundred and ten (110) articles were critically appraised for eligibility using the PRISMA (Preferred Reporting Items in Systematic Review and Meta-analysis). Final articles that were included after rigorous critical appraisal and assessment for relevance were fifteen. Thematic analysis using COSTA QDA conducted through the cloud-based WebQDA software was used to analyses data and derived conclusions. The results found that the current methodologies used for teaching research seem to be inadequate due to the missing links such as research language in consumption is lacking. It was further revealed that most academics in institutions of higher learning are overloaded with more work. The researcher concluded that a new model of teaching research is necessary. This paper further introduces a sequential andragogy suitable for teaching research.

**Keywords:** Andragogy, Education, Supervision, Research, Teaching

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## 1. Introduction

Teaching research in Higher education is faced with massive challenges emanating from diverse complexities related to andragogic approaches to research praxis while at the same time inhibited by a capacity-related aspect such as resources and internal knowledge (Bopape, 2018). The problem of low throughput at the postgraduate level is further heightened by the notion that students need to know about research as a measure of academic maturity, although that no foundational capacitation was ever implemented to prepare them (Gatfield, 2005). The problem of research competence is two-fold, one end attributable to students while the other end attributable to research teachers and lastly, the institutional strategy on research and development in teaching and learning (Watson, 2008). Academic institutions are always under increased pressure to reform their teaching and research techniques, especially at the postgraduate level (Cekiso et al., 2019; Universities South Africa, 2015). This is additionally aggravated by the increasing knowledge creation required in the 2013 National Development Plan, which aims to produce 5,000 PhDs per year

by 2030. This came in the form of a mandate in the Higher Education Department in 2012, in which universities were instructed to integrate research components in all postgraduate degrees, with courses starting at the honour's level (Universities South Africa, 2015). A far larger number of studies discovered that South African institutions have a shortage of professional leadership, especially in research capability (Van der Westhuizen & De Wet, 2003). This global phenomena has been repeatedly observed and studied around the world, including in the United States, Canada, Europe, and Africa, and many scholars have used this phrase to describe it.

Medway (2002) suggested that students attempting to do postgraduate research confront several problems, notably qualitative research. This argument was first supported by the research of Ely et al. (1997), and later by Belcher and Hirvela (2005). It may be further hypothesized that the problem is not only with postgraduate students, but experienced by undergraduate students as well. Wadee et al. (2010) posited that students' lack of research methodology expertise, power dynamics amongst research coordinators, and supervisors and students' lack of

academic literacy and writing abilities were all cited as reasons for a lack of postgraduate supervision. Walker et al. (2008) also said that little is known about effective strategies to enhance capacity for excellence in research in higher education institutions. Ulrich and Dash (2013) went on to say that, researchers in the twenty-first century need to improve their research skills through research education. Spaces, processes, and rules are designed to provide aspiring researchers with the knowledge, skills, attitudes, and behaviours necessary to do great ethical research and engage in local and worldwide scholarly communities as posted by Niemczyk (2018).

### 1.1 Global Perspective of Challenges Regarding Postgraduate Throughputs

Postgraduate research challenges were further discovered to be prevalent in other countries beyond South Africa. The following section frames findings in terms of geographical locations that depicted the situation from a global, continental and regional perspective.

#### 1.1.1 New Zealand, Malaysia, and Australia

Kumar conducted a qualitative study and Omar (2018) study investigated how postgraduate students think about research technique and how it helps them learn. The study examined the elements that are likely to influence a student's choice of research approach as well as the difficulties in comprehending research methodologies (Govender & Dhunpath, 2011). Another similar study was undertaken at research-intensive universities in both New Zealand and Malaysia, of which, interestingly, the outcome was similar. The students were enrolled in masters and doctoral programs. Participants agreed that research methodology is an important body of knowledge in postgraduate education, according to the findings. However, there were significant variations of opinion about what constituted research technique and whether it could be considered a field. To some participants, studying research technique is less of a discipline and more of a collection of discrete facts and abilities that may be acquired without necessarily gaining a deeper knowledge of research. Furthermore, postgraduate students select research methodologies depending on a variety of criteria, including familiarity with the technique, the primary supervisor's methodological approach, the topic of study, and the nature of the research issues being addressed. Participants said that formulating research questions, understanding theory or

literature and its role in affecting research findings, and issues with data processing are the most challenging aspects of learning research technique (Costa, 2020:b). Another similar study conducted in Australia (Roach et al., 2019) found out that:

- i. Supervisory traits that employees found most appealing were academic honesty, honest feedback, open communication, and team building.
- ii. Overall, students' preferences did not alter depending on whether the participants were from different backgrounds. Additionally, the data from the participants as a whole may be classed as a single group.
- iii. Students saw it as ideal to work with supervisors whose central philosophy was grounded on caring, empathy and development.

#### 1.1.2 North America

In North America, it was found that in certain graduate programs, the completion rate at the doctoral level was centred at around 50% (Denis et al., 2019). These researchers argued that the problems with the low rate of throughput were fundamentally inherent in methods of research supervision, as evidence in other parts of the world (Bopape, 2018; Disney et al., 2013). The study further found out that existing doctorate education research indicated an unequal worldwide environment comprised of both doctoral students and supervisors perspectives. Four critical issues were found in the study of (Denis et al., 2019) as interrelated dimensions such as scientific aspects of research, personal perspectives of student's realities, Administrative capacities and competence of research coordinating teams within universities and professional knowledge, skills, and abilities of supervisors.

#### 1.1.3 Sweden and Scandinavian Countries

According to a study done in Sweden, students encountered difficulties in accessing material pertinent to their research as well as culture shock. The lack of preparedness for postgraduate courses and insufficient mentorship were mentioned in the research. Due to a lack of supervision and language issues, several students were reported to lack confidence in presenting their own work.

#### 1.1.4 Saudi Arabia and the Middle East

The challenges of postgraduate research students found in South Africa were also discovered in studies

that focused on higher education in Saudi Arabia (Qasem & Zayid, 2019). Challenges faced included the relationships between students and their supervisors on one hand while the issue of English as a second language compounded their need to understand concepts that underpin research writing, as postulated by (Keane, 2016) (Manchishi et al., 2015). Some of the challenges enlisted included:

- i. Difficulties choosing on a study topic.
- ii. Lack of technical expertise.
- iii. Inability to locate contemporary.
- iv. Specialized, and relevant sources.
- v. Lack of enthusiasm in research.
- vi. Lack of comprehension of the subject matter.
- vii. Time constraints.
- viii. Research guidance.

#### **1.1.5 Uganda**

A study conducted in Uganda on the challenges of postgraduate research challenges focused mainly on the structure and nature of relationships between supervisor and the students (Malunda, Atwebembeire & Ssentamu, 2021). The study indicated that the student-supervisor connection is a major impediment to students' academic completion. These relationships are characterized by stand-offs culminating in tensions between the supervision parties (Lee, 2018). To improve students' development, institutions of higher learning need to introduce mechanisms and systems that address the supervisor-supervisee connection, supervisor mentoring, and promptness of any feedback.

#### **1.1.6 Nigeria**

Another study was done in 2018 in Nigeria, focusing on impediments to postgraduate students' research and training at the University of Ibadan, bringing the topic closer to Africa (Desmennu & Owoaje, 2018). 91 percent of the 137 people polled (67 percent of whom were full-time doctorate students) said they needed proposal development training, while 56 percent said they didn't have access to research resources. There are similarities regarding challenges in higher education within the countries. Family situation, work, insufficient money, and program unhappiness are the most common reasons given by students for dropping out of higher

education. The kind of enrolment is likely to influence master's degree throughput trends; full-time students are more likely to complete their programs, whereas part-time students are more likely to take longer. In conclusion, there is a consensus among researchers and scholars that the subject of postgraduate students' research problems is a global phenomenon that affects both prestigious and less prestigious universities. Many universities and educational authorities are aware of this problem as there has been much research on it, yet little is done to ameliorate its progressions and adverse impacts on knowledge development.

#### **1.1.7 African Perspectives on Throughput**

Institutions vary in terms of the length of a master's degree. At the Masters level, students in the UK can expect to take nine to twelve months to finish a full-time program of study, while students in South Africa may expect to devote as much as two-and-a-half years to their studies. Due to insufficient resources, part-time master's students may take up to four years to complete their degree and six to eight years to complete a PhD, whereas full-time master's students may take up to four years to complete their degree and six to eight years to accomplish a PhD. PhD programs are taught in some of the subjects (Amehoe, 2013; Mutula, 2009). In most African universities, research is well coordinated (Mutula, 2009).

The issues of master's throughput are not limited to underdeveloped countries. Developed countries, such as the United Kingdom, suffer similar issues. Canada, New Zealand, Germany, and the United States are examples of developed countries. Mutula (2009) discovered three challenges that affect the research process in African universities, namely capacity, productivity and utility. Research capacity refers to research facilities as well as skilled human resources, which have in-depth research knowledge. Research productivity refers to the availability of resource that will intensify research. Research utility focuses on the research outcomes if they are pertinent to the national developmental priorities. According to a University of KwaZulu-Natal study of postgraduate nursing students conducted in 2012, 62.2% of students rated the level of research supervision as moderate on a low-to-high scale. (Muraraneza et al., 2016). According to the researchers, there is a disconnect between the length of supervision and students' views of the supervisor's research abilities.

## 2. Methodological Approach

This study conducted a qualitative meta-synthesis framed according to the Place, Intervention, Comparison and Outcome whereby the best models for application in order to solve existing andragogic impediments were explored through literature (Grant & Booth, 2009). Costa (2018) theorized that a systematic review varies from previous methodologies within established paradigms of interpretative or positivist approaches as a method. Brettle (2009:45) elaborated on this point, claiming that systematic reviews "present a complete overview of research-based information that may help both practitioners and policy decision-making." This study used will use a descriptive explorative design within the qualitative research design method, as stated at the beginning of this section (Divekar, Bangal & Sumangala, 2012). The advantage of aligning this study with the Systematic Review method of inquiry is that systematic reviews give a high-level research procedure that guarantees consumers have access to responsible, reproducible, and repeatable data.

Hundred and ten (110) articles were critically appraised for eligibility using the (PRISMA) Preferred Reporting Items in Systematic Review and Meta-analysis. PRISMA is a tool for evaluating papers for research inclusion. A PRISMA Statement is a collection of evidence-based standards and criteria targeted primarily at increasing transparency and comprehensiveness in systematic review reporting. The standard's worth has been recognized for its rigor in synthesising knowledge, creating procedures, and research scoping (Sarkis-Onofre, Catalá-López, Aromataris & Lockwood, 2021). Final articles that were included after rigorous critical appraisal and assessment for relevant were fifteen. Thematic analysis using COSTA QDA (Costa, 2020:a) conducted through the cloud-based WebQDA (Costa et al., 2015) software was used to analyses data and derived conclusions. Themes were generated and a model based on the PICO research question, as an intervention was developed. This implies that the PRISMA Statement serves as a road map for authors to better convey what they did; what they discovered; and what they plan to do during the review process.

## 3. Theoretical Framework

In this study, the core theoretical framework is based on the COSTA Research Coaching Model

(Costa, 2020). This section will examine several ideas that aid in the understanding and education of change as a social science phenomenon, with a particular focus on postgraduate research and throughput enhancement. This theory integrates different approaches such as the Master-Apprentice Model, which is the more predominant style of supervision with its five stages as follows (Niemczyk, 2018; Keane, 2016):

- Fundamental and introductory step: Research language through the articulation of conceptual analysis.
- Research intention and proposal crafting stage.
- Critical analysis and synthesis.
- Varied perspectives of research methodology and associated methods.
- Research output value.

Elements of synthesis in this study were conceptually aligned to the above theory.

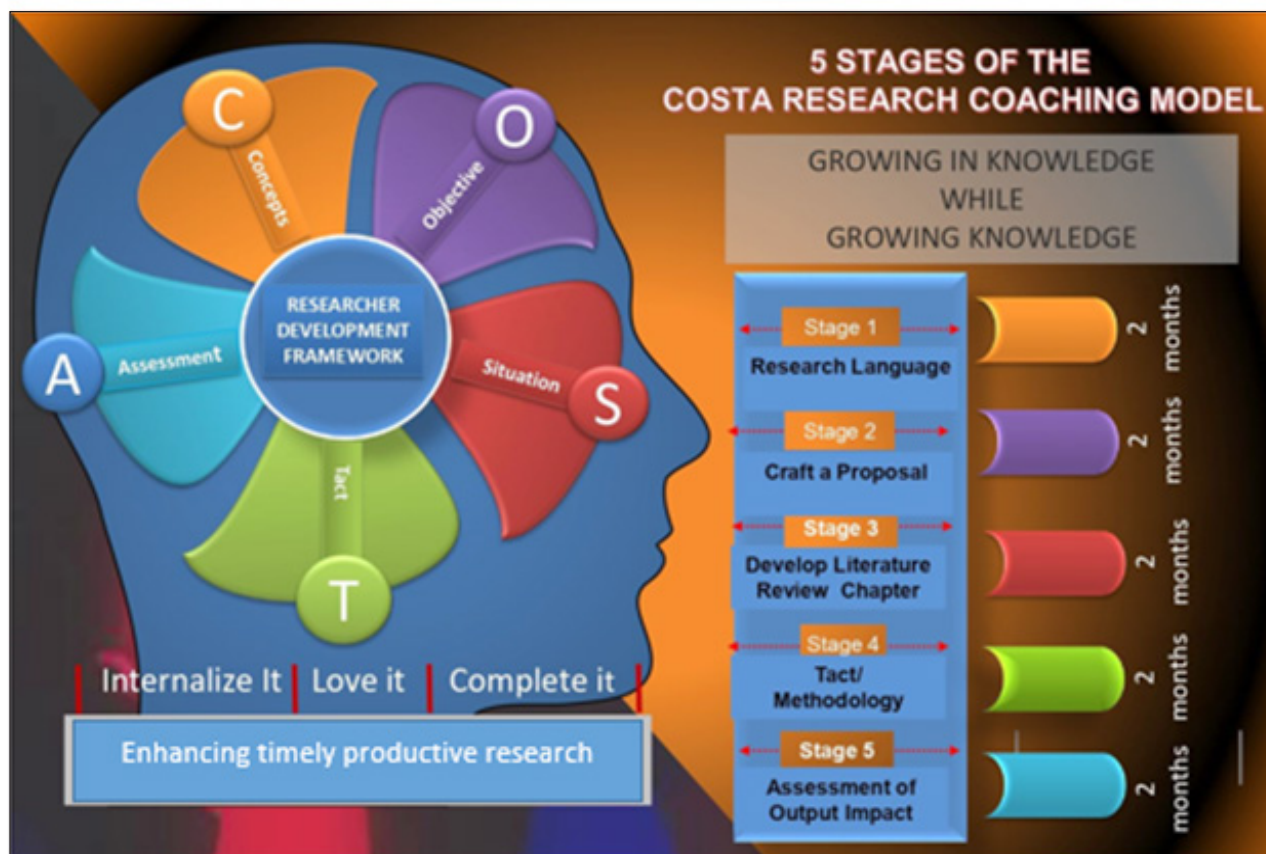
## 4. Results

This section provides the results of the synthesis carried through a qualitative meta-synthesis approach. These results were analysed by using thematic analysis, which has been highly recommended in a study of this nature (Nolte, Downing, Temane & Hasting-Tolsma, 2017; Grant & Booth, 2009).

### 4.1 Data Synthesis

Most studies synthesised seemed to reach a common conclusion on challenges being experienced by students and faculty alike at institutions of higher learning (Costa, 2018). Postgraduate students' non-completion is influenced by challenges and bad experiences academics bear responsibility for the development and management of an academic environment that is ideal for learning and research, as well as to help students finish their degrees within a fair amount of time (Yousefi, Bazrafkna & Nikoo, 2015; Essa, 2011).

To avoid long-term retention and completion problems, HEIs have adapted to identification and addressing the unique context-specific issues linked

**Figure 1: Application of Solution-Focused Andragogy**


Source: Costa (2020)

to postgraduate student retention and completion of studies. The universities administration seem to have made it clear that it was essential to draw a steady supply of new researchers and to create an atmosphere that would enable postgraduate students to develop their research capabilities. This was echoed by several studies such as (Havenga & Sengane, 2018; Manyike, 2017; Roets, 2016).

To assist with developing more cordial work cultures, postgraduate training and assistance were recommended (Severinsson, 2012). The postgraduate students' requirements and difficulties must be recognized to offer assistance and cultivate an atmosphere where they may develop (Benshoff, Cashwell & Rowell, 2015). The researchers wanted to discover how postgraduate students in a certain university are impacted by the contexts they face. These difficulties had not previously been identified, and it seemed that they greatly affected the postgraduate students.

The synthesis of these studies culminated into three main themes as follows:

**Theme One:** Lack of foundational grounding on key aspects of research.

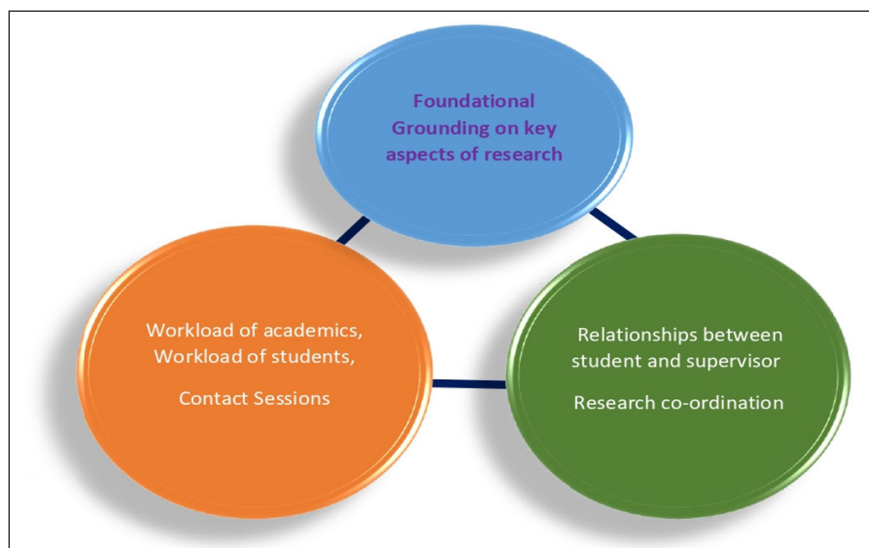
**Theme Two:** Non-responsive supervision tradition at institutions of higher learning.

**Theme Three:** Supervisor burden.

Whereas other thematic issues raised in this synthesis were adjustable, the research element seemed to pose more problems to students because most institutions were not capacitated to provide research empowerment programs to students. A study by Costa (2018) found out that, on average, most public institutions enrolled about four thousand students a master's level, yet at the end of the programme, only less than thirty percent (30%) made it through, as depicted by Figure 2 on the following page.

Figure 3 indicates outcomes of institution's throughput over a period of eight years starting from 2009 to 2016. The content of this image has been cited as a major challenge in literature as the institution's

Figure 2: Depiction of Thematic Findings



Source: Researcher

Figure 3: Challenges of Postgraduate Studies

Open Distance Learning								
Enrolments	2009	2010	2011	2012	2013	2014	2015	2016
<b>Masters</b>	4711	5459	5909	5254	6372	6072	5726	5500*
<b>Doctoral</b>	754	1024	1257	1173	1872	2100	2117	2179
<b>Graduations</b>								
<b>Masters</b>	373	474	677	831	799	1030	936	655*
<b>(Research)</b>	(100)	(89)	(190)	(321)	(342)	(587)	(513)	(655)
<b>Doctoral</b>	71	55	93	152	201	268	235	296
<b>(Research)</b>	(71)	(55)	(93)	(152)	(201)	(268)	(235)	(296)

Source: Costa (2018)

throughput is low (Denis et al., 2019; Bopape, 2018; Costa, 2018; Desmennu & Owoaje, 2018).

## 5. Discussion

Based on the findings of this Meta-synthesis, this section discusses and provides guidelines concerning methods that could be applied for improving research competence for novice researchers, postgraduate throughput and research utility. According to Ellis and Levy (2010) finding the right research methodologies for a particular study goal can be a daunting undertaking for researchers who are just starting. In many cases, it may appear daunting to new researchers, as they do not have a firm grasp of the basic terminology and concepts employed in several well-known

strategies. This forms part of the first stage of postulations by Costa (2020) in his Five Stage Model that emphasises the requirement, which forms the theoretical framework of this study. This model suggests that key research concepts are important to be taught before students and novice research can embark on research projects (Reddy, 2020). The first approach for guiding researchers is introducing them to the structure of research in academic settings, creating practical synergy between metaphysical aspects and praxis. The popular Research Onion by Saunders, Lewis and Thornhill, (2019) by and large influences the Five Stage model in that it provides step by step approach of elements that novice researchers should familiarise themselves with to gain requisite competence of the research language. This in turn will

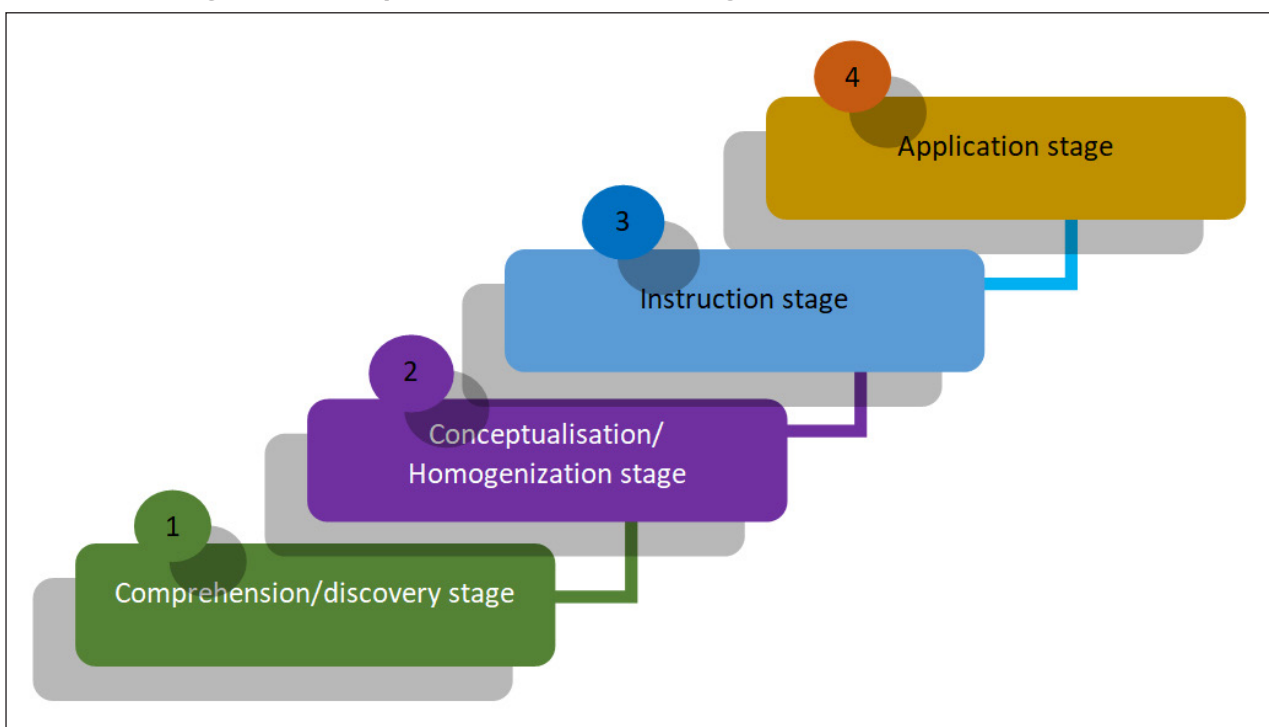
improve throughout in universities because many students who do not complete due to barriers related to lack of research language would be empowered (Sverdlik, Hall, McAlpine & Hubbard, 2018).

## 6. Conclusion and Recommendations

This study, which was based on review methods, investigated the application of research solution-focused andragogy in Higher Education in South Africa. A qualitative evidence synthesis found out that despite a prevalent consensus on the challenges faced by postgraduate students in research, there was no unified method of solving the known problem. An extensive review of literature across diverse global locations found out that key problems were similar across many institutions of higher learning. Although there is unagreement regarding the scanty literature on solutions, the recent COSTA Model of postgraduate research coaching is been recommended, as a solution-focused andragogy to be used as an enabler for novice researchers at institutions of higher learning. This model has received considerable reviews and support from different scholars citing its value for postgraduate research supervision and student support (Costa, 2019). The results section of this study presented three themes that culminated into the central

investigation of this study. This section discusses these results and offers possible solution-focused andragogy (Knowles, 1984) as a way forward for mediating the problems identified. The discussion is centred on thematic expressions that emanated from the data analysis referred to in the results section. These themes were clustered into problems related to financial, academic, and research. In terms of the theme of the financial problems issues such as fees, employment requirements, and family responsibilities were enlisted in the number of articles synthesized as problem areas that impede the student's development (Magano, 2013). Whereas the problems related to finance and academic can be adjusted, the third theme related to research seemed more insurmountable due to the nature of current practice and the fact that research has been enforced in higher learning from 2013 in South Africa (Sonn, 2016). For that reason, this discussion will focus on the research thematic area and finally propose a solution-focused andragogy to mitigate these problems. The discussion will provide a narrative synthesis on comprehension and discovery/ conceptualization as fundamental to a postgraduate researcher's journey, while at the same time augmenting this with homogenization, instruction, and application. This will be contained in a conceptual framework as depicted in Figure 4.

Figure 4: Conceptual Framework for Postgraduate Research Problems



Source: Researcher (2021)

### 6.1 Comprehension/Discovery Stage: Understanding in Andragogy and Pedagogy

In this study, the pivotal role played by comprehension/understanding in research is explicated and supported through well-articulated sequential strategies. These are presented in the context of the desirability for student absorption and instructor competence (Block & Duff, 2008). Theoretically, the definition of strategic intent for any compendium prepared for teaching and instruction needs to forecast instruction aids and at the same time enhancing developmental needs to aspects such as student demographics (Duffy et al., 1987). According to this theory, a research technique applied for the development of comprehension-embedded andragogy (Knowles, 1984) a method should be systematically geared towards solving a particular problem. The various steps that a researcher takes to investigate an andragogic research problem, as well as the reasoning behind them, are examined in research methodology as presented. Key to the procedural activities of this methodology is the requirement for the researchers themselves to comprehend not only the approach but also the rationale for the findings.

### 6.2 Conceptualisation/ Homogenization Stage

Reliable data and the techniques used to collect it are still the foundations of research. Scientific techniques make it easier to achieve high-quality test results. The first step in conducting research is to formulate a research issue (Sequeira, 2014). At this point, the researcher should have a thorough understanding of the words and terms used in the study so that there are no misunderstandings later on. As our understanding of human development and learning has expanded at a rapid rate, it is critical to attaining levels of competence regarding how we shape educational practices through the application of sound conceptual knowledge. According to Costa (2020) concept are critical and foundational for understanding research language. The conceptual analysis allows the researcher to create a taxonomy for meaning (Costa, 2018).

Foundational dynamics that embed the research concepts are key for the novice researcher's development in any postgraduate educational drive. This calls for a student to understand and articulate logically the frames and pieces that connect constructs and contextually assimilate them to formulate a

cogent proposition. Andragogy's developed specifically to support this kind of development will be unrivaled by none while promoting and enabling an environment of unparalleled knowledge development within the context of higher education (Lee, 2018). The connecting lines for this kind of thinking are manifest in the method of instruction as contemplated below.

### 6.3 Instruction Stage

Instruction in the context of what this study found hinges upon student's inability to reach the idea and productive stage due to their inability to understand the research language. The works of Lee (2018) were discussed in the context of doctoral education in (Costa, 2020:b). In this presentation, the author tabulated the types of instruction in postgraduate research journey, whereby a contrast was made between functional, enculturation, critical thinking, emancipatory and relationship building. This method entails providing real-time problem solving in a seminar/workshop setting, where students, sometimes from various colleges, gather with the shared goal of better understanding research procedures and how they may be applied to their studies. This approach allows students to engage in semester-long research project sessions with experienced coaches who guide them through objectives, milestones, and the outcome the student should expect. (Lubb et al., 2005; Pearson & Kayrooz, 2004).

Costa (2020) and Lee (2018) proposed interventions that are more relational in postgraduate supervision to enhance the growth of students and novice researchers. They attribute this form of instruction to be less directive and more result-oriented, using principles of coaching. This method appeared in most of the articles synthesized as a possible intervention. For the purposes of this research and its defining methodology, coaching as an instructional intervention will be explored more in relation to the conceptual framework presented in Figure 3 and integrated with the application.

### 6.4 Application Stage

This section seeks to operationalize postulations as discussed above, to fulfil the intent of this study whereby a model for the application of research solution-focused andragogy in higher education. Most of the literature surveyed reveals advantages in using coaching as an andragogy that is



solution-focused for enhancement of postgraduate research journey for students (Costa, 2020:b; Lee, 2018; Keane, 2016). Coaching and mentoring do differ slightly in that whereas coaching intervention is time-focused (usually short period) and results-oriented, mentoring is informal and not based on specific time limits (Whitmore, 2002).

There have been studies that show coaching has a good effect on academic staff in higher education. Academic staff career progression, scholarly confidence, collaborative work, skill development, and action planning have all been proven to benefit from coaching (Lane & De Wilde, 2018). There is, however, little data on the impact of mentoring doctorate students in particular (McCarthy, 2012). This review of the literature includes four major publications that are relevant to this research. To substantiate these sentiments, (Costa, 2020:b) argued in favour of using a coaching intervention as a solution for doctoral education, using a more structured pedagogy/andragogy that addresses all issues raised in this study as impediments to student's development in the postgraduate research context. This author summarized the problems to be classified into three categories, namely, research incapacity (Mdyogolo, 2012), research productivity and, research utility (Goodall, Dowell & Singell, 2014).

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