

TITLE: INTRODUCING THE C.O.S.T.A. POSTGRADUATE RESEARCH COACHING MODEL - A COMPLEMENTARY APPROACH TO SUPERVISION

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ABSTRACT

Postgraduate research is a massive stumbling block to students who had never had an opportunity of exposure to research methods. A study conducted by the researcher (Costa,2018) revealed challenges in postgraduate supervision – one of these challenges was lack of exposure to research language by students. Qualitative research and its complexities due to a variety of approaches including rigour determination pose a plethora of challenges to novice researchers. This document presents C.O.S.T.A model as a tool suitable for use by academics and students, with a panoramic view of steps to be taken first to understand foundational concepts and the language of research and secondly to make informed choices on the research methods and design strategy options available for the prospective researcher. Conclusions drawn on the reliability of the model are based on empirical evidence of application of the model observed over a period of 12 months, with some students testifying to have passed their research projects satisfactorily at their respective leading universities in South Africa. Secondary research also provides voluminous sources of success of similar research supervision programmes both in South Africa and abroad.

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1. INTRODUCTION

There is an increasing pressure both in South Africa and abroad for universities to consider their methods of teaching and conducting research (Cranfield & Taylor, 2008). In South Africa, this is further exacerbated by the need for universities to focus on new knowledge as contended in the National Development Plan of 2013, which requires production of 5000 doctorates per year. As a matter of fact, in 2012 the Higher Education Department introduced a requirement for universities to start introducing research component in all postgraduate studies, starting at honors level.

A further substantial number of researchers have discovered the shortage of skilled leadership particularly in the area of research capacity in South African universities (Van der Westhuizen & De Wet, 2003). As this was asserted over a decade ago, the researcher's study (Costa,2018) found out that the situation was increasingly deteriorating.

This article is presented as a sequel to a previous study on challenges facing postgraduate students in terms of academic research (Costa, 2018), which presented the following challenges:

- Research capacity
- Research productivity
- Research utility

The study had further pointed out the height and depth of the phenomenon of poor completion ratios at most South African universities (Bopape, 2018). This phenomenon, as a global problem in higher education has been steadily observed and documented in locations such as Australia, North America, Europe and South Africa has also been alluded to by many researchers (Cranfield & Taylor, 2008), (Lessing & Lessing, 2004) and (Van der Westhuizen & De Wet, 2003).

Medway (2002) postulated the difficulties faced by students conducting postgraduate research, particularly qualitative research. This view is corroborated by studies in the

late 90s (Ely, et al., 1997) and later on by Belcher and Hirvela (2005). Students are faced with complex situations demanding high research mental capacity to unravel the fuzziness of qualitative research genres (Belcher & Hirvela, 2005).

Scholars (Wadee, et al., 2010) have attributed the challenges in postgraduate supervision to:

“Inadequate academic literacy and writing skills, power relations and inadequate preparation in research methodology”.

Studies further indicate that there is not much known regarding effective ways to develop capacity for excellence in research at higher education institutions (Walker, et al., 2008). Existing literature further indicates the need for increased research competencies for the 21st century researcher through research education. Niemczyk (2018) explicates education research as,

“The term *research education* refers to spaces, practices and policies designed to equip prospective researchers with the knowledge, skills, attitudes and behaviours they need to conduct quality ethical research and engage in scholarly communities locally and globally”.

Elements of research education could include research methods learning programmes, research workshops and research coaching. These are elements added to the normal supervision programme at postgraduate level.

Whereas the key focus of the C.O.S.T.A model is encouragement of research education, it is against these challenges (*supra*), including others such a burden of supervision that the C.O.S.T.A. model is being introduced. To help targeted users to implement the model, the researcher has produced a complete Guide to Qualitative Research, which will be available in June 2019.

2. PURPOSE OF THE MODEL

The model is created to assist both students and those teaching research, particularly qualitative research, to follow a structured framework of learning and development in the diverse field of postgraduate research, (Costa,2018). There is a substantial literature on challenges of postgraduate students, particularly those who conduct qualitative research due to its nature of predominant reliance on texts and themes (Medway, 2002). The need for acquisition of research skills and capacity are increasingly being affirmed by governments across the globe as critical for creation of sustainability and thriving economies (Chubb, 2013). The model is a solution to much needed guidance by students and much needed support by supervisors and lecturers in academic research, as espoused in the previous study undertaken by researcher (Costa, 2018).

This model is a tool to enhance what is currently been done to supervise postgraduate students at universities in South Africa and beyond. Postgraduate supervision can be defined as a process of support to postgraduate research students by well trained academics (Maxwell & Smyth, 2010).

The C.O.S.T.A model has its origin on models like the Collaborative Cohort Model (CCM) which has also been introduced by one of the leading institutions of higher learning in South Africa (Govender & Dhunpath, 2011). It has clearly been established that collaborative methods of supervision tend to have better results. There are quite a number of methods and models of supervision at postgraduate level followed as a common practice both in South Africa and beyond. The Master Apprentice Model (MAM) fits in well with traditional methods of supervision which often created a lonely postgraduate journey (Bock, 2013). It cuts across quite a number of approaches at institutions of higher learning. A framework providing varied approaches to postgraduate supervision was published in 2008, covering practices and collaboration with supervisors across the globe, an activity that has since refined the framework (Lee, 2018).

C.O.S.T.A. Model in the grand scheme of things - table adapted to Lee, (2018).

Characteristics to the supervision relationship	TRADITIONAL APPROACHES		C.O.S.T.A Model		
	Functional	Enculturation	Critical Thinking	Emancipation	Relationship Development
Supervisor's Activity	Rational progression through tasks	Gatekeeping Master to apprentice	Evaluation Challenge	Mentoring, coaching, supporting constructivism	Supervising by experience, developing a relationship
Supervisor's knowledge & skills	Directing, project management	Diagnosis of deficiencies, coaching	Argument, analysis	Facilitation, Reflection	Managing conflict Emotional intelligence
Possible student reaction	Organised Obedience	Role modelling, Apprentice-ship	Constant inquiry, fight or flight	Personal growth, reframing	A good team member. Emotional intelligence

Table 1- C.O.S.T.A. model placement within established approaches.

The C.O.S.T.A model, developed by the researcher, is an andragogical tool that promotes collaboration and collegiality using a multi-disciplinary approach to making a research journey of students an exciting one. This approach involves provision of real-time problem solution in a seminar/workshop based mode where students, sometimes from different universities, come together for a common purpose of understanding research protocols and how these can be applied to their individual studies. Further to contact sessions in cohort mode, each student is allocated a qualified coach, who must spend time with the student discussing research coaching goals and assessment of milestones and desired outcomes. The triad of the approach is completed by an digital approach and use of collaborative communication technology. Learners have a portal which facilitates independent research and stakeholder engagement with other learners and faculty in a virtual reality.

The programme proposes that students attend these sessions, where the first step is to learn about concepts and research language. This is critical as it introduces them to key terminology that will be used in their research projects. This step is not passed until students demonstrate knowledge and understanding of concepts and context of use

including content requirements for particular studies. When this is done then the issue of research question is raised before getting to the topic. The topic comes after carefully selecting a research question. This can't be done without understanding literature review.

The advantage of this model is that while using basic principles of coaching, whereby the coachee must find results, it provides support to students in a structured a coherent manner from the coaches/supervisors and fellow students.

Figure 1 below presents a 5-step framework of the model for further perusal.

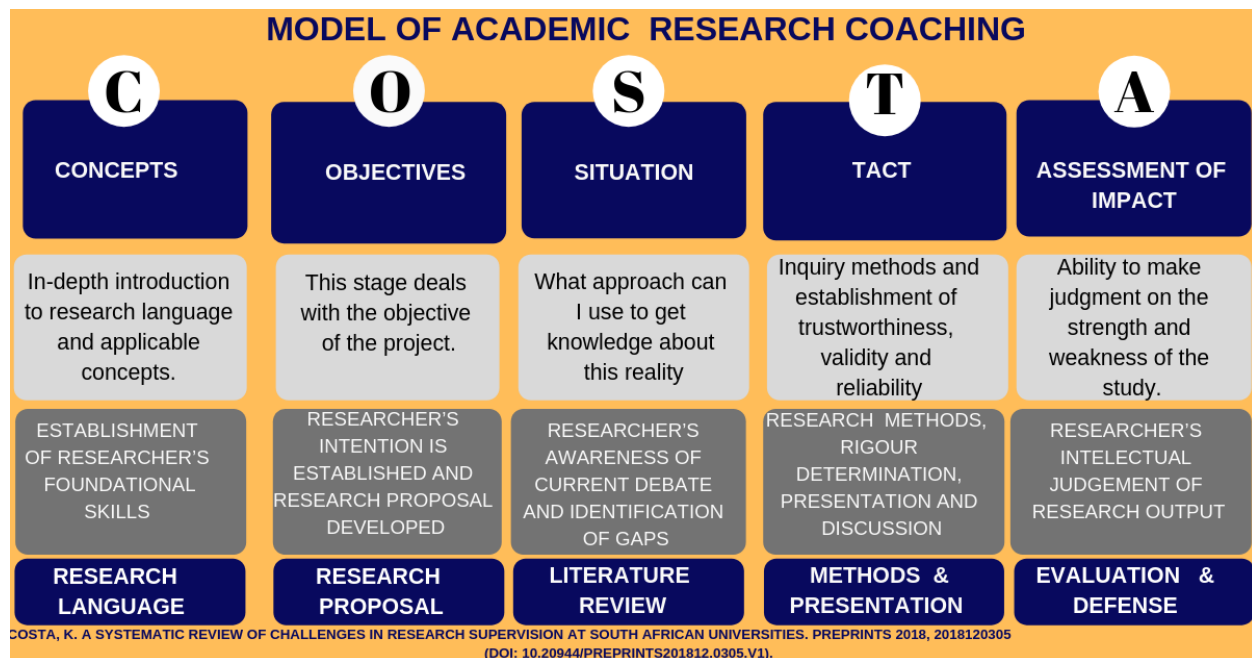


Figure 1-COSTA Model, create by author

3. RATIONALE FOR THE CREATION OF THE MODEL

The model is an introductory guide to novice researchers while being a tool to assist those with the task of guiding novice researchers. The researcher's passion for this project was inspired by the needs of most postgraduate students who indicated lack of knowledge on the research methods, including varied intricacies of research aspects, research language and research report writing (Leedy & Ormrod, 2005).

The model is created on evidence of what the researcher empirically observed when they brought students together from different institutions of learning with a sole purpose of implementing the programme (Costa, 2018).

As indicated above, the model is andragogy which provides suitable enhancement to the academic practice of postgraduate research supervision. The term andragogy, with its origins in Greek literature, refers to the concept of leading adults, as opposed to the term pedagogy, which is used to denote leading children. Andragogy is a term mainly used in adult education, however, in this project, the researcher further proposes the dual use of the term to denote adult learning and educational leadership. Therefore, the concept of C.O.S.T.A model is on postgraduate supervision leadership (Mosley, et al., 2008). The model is therefore a tool to enhance the skills of a supervisor as a manager and leader of the student. This happens during the initial stages of contracting, as graphically articulated in *Table 1* below.

The importance of coaching in postgraduate supervision must not be taken lightly (van der Linde, 2012). Observations as recorded on the researcher's website and "in-vivo" statements from participants do indicate the vital role coaching plays in research supervision. The C.O.S.T.A model provides growth incrementally for both the researcher and supervisor as noted by the author during interactions at the Global Centre for Academic Research (Costa, 2018). The leadership aspect of the C.O.S.T.A. coaching model is demonstrated through the act of "influencing" through the practice of "coaching" (Bush, 2008).

The best model of leadership, often cited as transformation leadership, is where there is acceptance of common purpose between the leader and the follower. That acceptance in the C.O.S.T.A. coaching model is demonstrated in the student's enthusiasm on their work which will further be tested through the quality of the research output (Kotterman, 2006).

4. BENEFITS OF USING C.O.S.T.A. MODEL

Students from different universities who register for postgraduate research coaching have stated a number of benefits they derived from the practice of the C.O.S.T.A model at the Global Centre for Academic Research. These benefits include the following:

- a. In-depth explication of scientific research concepts in a simple and non-threatening approach
- b. Structured approach to individual research within a project team of scholars
- c. Community of practice
- d. Social cohesion
- e. Opportunity for peer review and feedback
- f. Peer support
- g. Project team approach and collegiality
- h. Shared approaches to inquiry

5. APPLICATION OF THE MODEL

The C.O.S.T.A model is a framework and pathway of research coaching that follows five (5) distinct yet inter-related steps towards the attainment of a research output by novice researchers. The researcher observed and tested its application over a period of 12 months from March 2018 to March 2019 at the Global Centre for Academic Research (Costa, 2018).

It focuses on spending time with students introducing them to concepts that will be critical in their research projects. As in the case of collaborative cohort model (Govender

& Dhunpath, 2011), students and supervisors get together in an interactive workshop where the project leader makes presentation and the rest of the audience interact on these topics. Topics could be concepts or different stages of the research project. Seminars/workshops are followed up by one-on-one interaction with the student by a supervisor. Student submissions, which are uploaded on an interactive online portal, are then viewed by a team of peers who will submit their findings to the chief supervisor. The process introduces the student to the peer review system.

Step One: This step introduces students to research concepts. This is a step of ensuring the students are fully prepared to go through with the research project. This step prompts students to prepare essays for presentations on key concepts and conventions of research methods and methodologies and identify the difference. This initial stage of the model takes students through a process of question and topic. Philosophical assumptions and their impact on research questions are dealt with, ultimately helping students to prepare a conceptual framework of their chosen studies. Understanding the language of research is a huge switch for postgraduate students who meet this academic expectation for the first time, save for sporadically condensed research methods workshops often provided by universities. To ensure students are able to articulate concepts and concepts usage, the process of this steps takes a minimum duration of four (4) to six (6) months.

Step Two: The second focuses on student's intention (Proposal) and methodical steps necessary to complete that stage. Already at this stage the student researcher has requisite foundation competence (theory and practice) required for a postgraduate scholar. He or she is able to articulate concepts, formulate theoretical framework and distinguish it from the conceptual framework while demonstrating relationships. The student articulates and understands contexts and usage of language. Ability to present a clear road-map and capturing the whole concept within a proposal is introduced to students. At this stage writing starts and coaching occurs.

Step Three: This step goes before step one and gets back to take a prominent step in Step Three. It emphasises the importance of reviewing literature before even attempting the proposal. The need for pre-proposal literature review necessitated by the fact that the scholar needs to understand the problem and its magnitude from reviewing literature so as to formulate the background to the study, problem statement and research questions.

At this stage, critical reading and writing skills are developed – whereby students are introduced to concepts of critical thinking, synthesis and summarisation as depicted by *Figure 2* below.

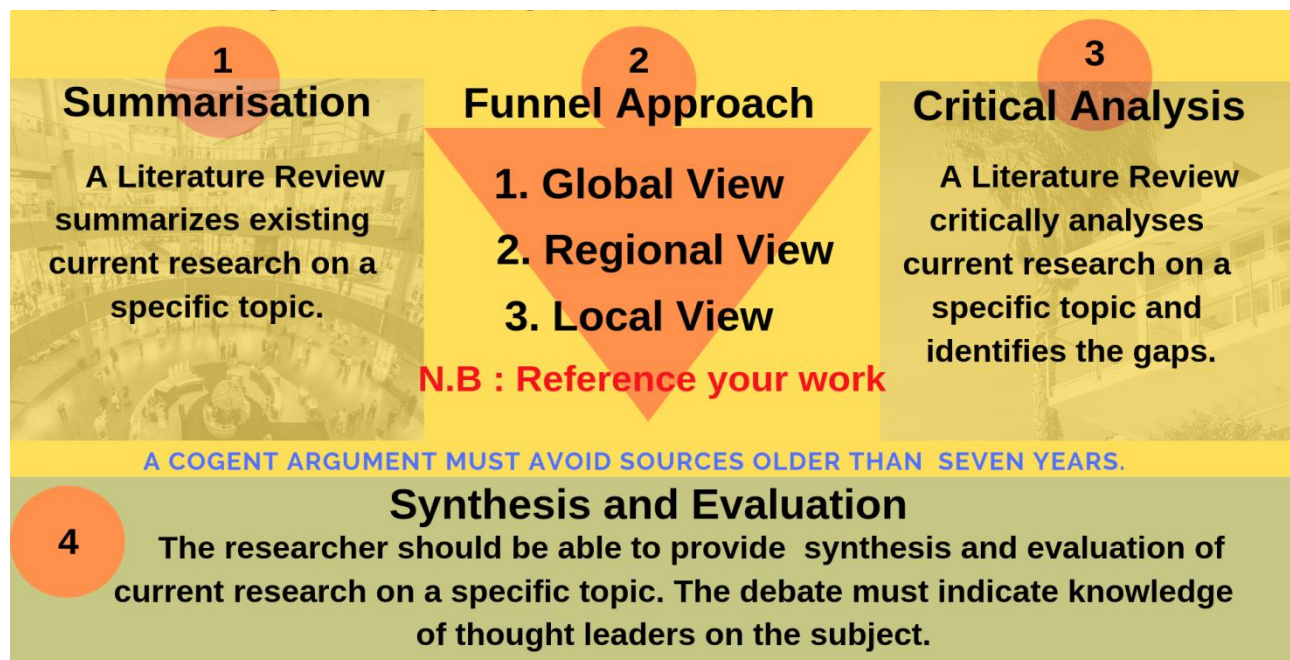


Figure 2- The G-CAR Literature Review model - created by author

Step Four:

The researcher created a concept of step 4 called TACT. Tact is demonstration of skills particularly to collect data, analyse data, present findings (or results), discuss and formulate conclusion. The validity, reliability (which are predominate concepts in quantitative research) or trustworthiness of the study is then demonstrated. This is where we meet the concept of TACU for the first time. The TACU is created as a means

to ensure quality criteria as already postulated by leading qualitative research theorists (Creswell & Miller, 2002). Figure 3 below displays the TACU concept which is fully discussed in the Pictorial Guide to Qualitative Research, due out in June 2019.

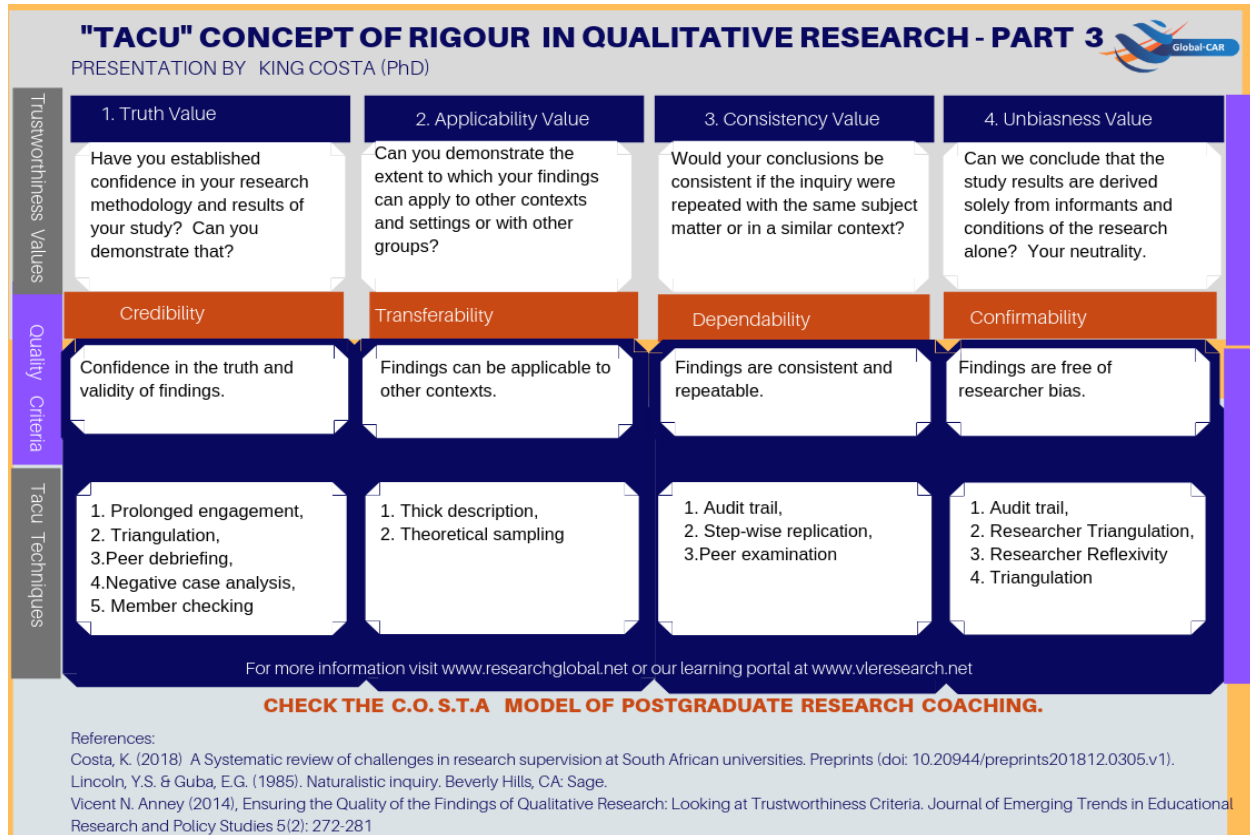


Figure 3- TACU concept of rigour determination - created by author.

Step Five:

In this step the student measures success of all her steps to the final stage. The final stage includes the ability for students to present a cogent argument, conclude the writing of the thesis/dissertation and prepare an article for publication. The other important element of this stage is a mock defence where students are prepared to defend their output through a presentation to a panel of scholars.

FRAMEWORK OF THE C.O.S.T.A. MODEL

STEP	DESCRIPTOR	APPLICATION	STAGE SIGNIFICANCE
STEP 1 C Four to 6 months	CONNECTION CONCEPTS CONTEXTS CONSTRUCTS	<p>Connection between the supervisor and the student is critical. The suggested method is the GROW model to determine the preparedness and willingness of the student.</p> <p>In-depth introduction to research language and applicable concepts. This cannot be done in one week; it should be a minimum of four (4) months programme.</p>	ESTABLISHMENT OF RESEARCH'S FOUNDATIONAL SKILLS
STEP 2 O Four months	OBJECTIVES	<p>This deals with the objective of the project.</p> <p>The student should be able to articulate the following: Introduction, Background, Study Objectives, Assumptions/hypothesis, The Study Significance, Study limitations, Delimitations and Research Question.</p> <p>This stage should culminate in complete proposal and "viva voce."</p>	RESEARCHER'S INTENTION (Research Proposal)
STEP 3 S Duration integrated with Step 1 & 2	SITUATION	<p>Thorough assessment of literature on the subject and identification of gaps. Time is spent on the G-CAR Literature Review Model.</p> <p>Formulation of a Theoretical Framework and Conceptual Framework and knowledge of the difference between the two.</p> <p>Application of Blooms' complex thinking skills (critical analysis, synthesis and evaluation).</p>	RESEARCHER'S AWARENESS OF CURRENT DEBATE

<p>Four months</p> <p>STEP 4</p> <p>T</p>	<p>TACT</p> <p><i>Qualitative Methods</i></p>	<p>Credibility: In addressing credibility, investigators attempt to demonstrate that a true picture of the phenomenon under scrutiny is being presented</p> <p>Transferability: Investigators provide sufficient detail of the context of the fieldwork for a reader to be able to decide whether the prevailing environment is similar to another situation with which he or she is familiar and whether the findings can justifiably be applied to the other setting.</p> <p>Dependability: Researchers should at least strive to enable a future investigator to repeat the study.</p> <p>Confirmability : Researchers must take steps to demonstrate that findings emerge from the data and not their own predispositions</p>	<p>RESEARCH METHODOLOGY AND TRUSTWORTHINESS</p>
	<p>Quantitative Methods</p>	<p>Validity</p> <p>Reliability</p>	
<p>Two months</p> <p>STEP 5</p> <p>A</p>	<p>ASSEMENT</p>	<p>Ability to make judgment on the strength and weakness of the study.</p> <p>Provision of a cogent argument in support of study objectives and its benefits to targeted audience.</p> <p>Implications and recommendations.</p>	<p>RESEARCHER'S INTELLECTUAL JUDGEMENT OF RESEARCH OUTPUT</p>

Table 2: C.O.S.T.A Coaching Model of Supervision – a 12 month research pathway.

6. CONCLUSION

This particular presentation established through secondary research that coaching in postgraduate supervision as an intervention is critical. It was further articulated that research supervision integrates by and large elements of transformational leadership. It is thus presented hereto that institutions need to encourage:

- Establishment of models that enhance development of novice researchers
- Research education
- Serious scrutiny of plethora of research on challenges facing postgraduate researchers and supervisors

- Adopt the use of C.O.S.T.A. model in postgraduate research.

At the Global Centre for Academic Research we host monthly research seminars for postgraduate research communities from different universities and institutions in South Africa. These seminars are structured along the C.O.S.T.A. model and have benefited a number of students, some of whom got distinctions in research from their different universities. We seek to continue to partner with research institutions and universities to help deal with problems and challenges as discovered in van der Linde (2012) and further discovered by the author (Costa, 2018).

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