TEACHING ADVANCEMENT at UNIVERSITIES (TAU) FELLOWSHIPS PROGRAMME

TAU 3

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PROJECT TITLE

A DIFFERENTIAL EFFECT OF RESEARCH TEACHING INNOVATION ON DISSERTATION COMPLETION RATE AND PASS MARK AT TGSL

By

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1   The Problem

The Turfloop Graduate School of Leadership hereinafter referred to as TGSL experienced a backlog of postgraduate students, which *inter alia* emanated chiefly from uncompleted mini-dissertations. Pedagogy scholars opine that this problem often catalyse postgraduate student attrition (van Rooij, et al, 2021). Notwithstanding the recognition by scholars, a framework to alleviate this problem is scanty.

2   Aim and Objective

This research aims to ascertain if the implementation of innovative teaching approach to dissertation research writing has made a significant difference in the proposal and dissertation completion rate and dissertation assessment mark at the TGSL. In addition, relying on insights from theoretical literature and results from this paper, to develop an agency-based conceptual framework for an inclusive teaching of research writing to postgraduate students.

Therefore, the objectives of this research are:

- To analyse the significant difference in proposal completion rate and pass marks between pre and within innovation in teaching of dissertation research writing at TGSL
- To evaluate the significant difference in dissertation completion rate and pass marks between pre and within innovation in teaching of dissertation research writing at TGSL
- Based on the results from the above two objectives and insights from the literature, develop a conceptual framework for inclusive teaching of dissertation research writing

3   Theoretical Framework: *Confluence of Humanism and Social Justice Pedagogy*

This project inclines on the confluence of social justice and humanistic pedagogic theory. Humanism theory of teaching asserts that humans are intelligent beings and possesses the capacity to achieve learning if their innate motivation is calibrated to think under a balanced emotional state (Jingna, 2012). The social justice theory of pedagogy bolsters the humanistic theory by advocating that the scholastic pedagogy should offer students equal and just access irrespective of background (Javadi & Tahmasbi, 2020). It follows therefore that a humanistic and socially just pedagogy would have an inbuilt mechanism that cushions learners' emotional state and calibrates their innate power of thought. Accordingly, the author constructs the following schematic frame (Figure 1) of confluence of humanism and social justice pedagogic theory, wherein this project is located. This framework receives further development as a conceptual framework for further research at the end of this research.

Figure 1 Confluence of Humanism and Social Justice Pedagogic Theory
Source: Designed by the Author – with insight from the literature

4   The Context

Production engineers engage in a relentless production innovation and investigation to find the most effective production turnaround time for the company (Bevilacqua et al, 2013). Analogously, in compliance with the teacher agency expectations, the teachers of dissertation research writing at the MDEV and MPA programmes at TGSL embarked on innovation in the teaching of research writing to improve proposal and dissertation completion time. The need arose because one area of concern at the TGSL has been the backlog in the completion rate of research proposals and mini-dissertation. Chief amongst the teaching innovation in research writing is initiation of a "*learning discussion*" in research

teaching, and the assessment of proposals with assigned marks that count toward the year mark for research methodology module. However, the effectiveness of this innovation on proposal and dissertation completion rates, and pass marks has not been evaluated. Accordingly, it became pertinent, to engage in a quantitative analysis to ascertain if this innovation has made a statistical significant difference in the rate of proposal and mini-dissertation completion and pass mark performance in mini-dissertation.

5   IMPLEMENTATION

Implementation required a relevant paradigm, design and method, and results – these are expatiated below.

5.1   THE PARADIGM

Sequel to the above context, this project draws its philosophical stance on the intersection between ontology, epistemology, and paradigm. The paper's philosophical stance is on the ontology of a single reality (*ceteris paribus*) and on the epistemological stance, that knowledge can be measured (Demuro & Gurney, 2021; Lee et al, 2021). Accordingly, these two philosophical stance dovetails firmly with the positivist paradigm, which relies on the quantitative measurement of research variables by applying statistical techniques (Creswell & Plano Clark, 2011). This philosophical stance lends credence to the following espoused research method.

5.2   DESIGN AND METHOD

Based on the paradigm and context, the project applied a longitudinal research design whereby prior data on students' proposal and dissertation completion rates and pass marks were from the same group of individuals over time and compared with another longitudinal set of data. This design is apposite given that longitudinal approach permits repeated observation of the same variables and/or people over a short or long period; it also allows for retrospective investigation of the phenomenon using existing data (Demetriou et al, 2019; Weng et al, 2021). Drawing from the specified positivist paradigm above, the research applied a quantitative research method. The researcher collected quantitative data (proposal and dissertation completion rate and pass marks in research methodology and dissertation) from documented research performance of graduated students in the Master of Development (MDEV) and Master of Public Administration (MPA) programmes at the TGSL. Data collection was from the class cohorts for four years within the innovative research teaching approach and four years before the innovative teaching approach. This was therefore suitable to longitudinal data characteristics, which affords a repeated observation of the same variables over a period. The data analysis applied the statistical t-test of mean difference to ascertain possibility of significant difference in two sets of data under different approaches of teaching research writing. Following the results from the analysis and with insights from the literature on the pedagogy of teaching dissertation writing, the researcher develops a conceptual framework for an agency based inclusive teaching of dissertation research writing (Figure 2).

5.3   OUTCOME – THE RESULTS

Table 1 presents the first result regarding the differential significance between the proposal completion rate in the two phases of research teaching (within the teaching innovation and before teaching innovation). Table 1 results show a P-value of 0.00158, which is less than 5% alpha level. This indicates that students' proposal completion time during the teaching innovation period is significantly different from the proposal completion time before the teaching innovation. The result showed 6.65 months mean proposal completion rate during teaching innovation, and a higher mean proposal completion time before the teaching innovation of 9.45 months. Similarly, Table 1 presents the results regarding the significant differential effect on dissertation completion rate in the two phases of research teaching (within the teaching innovation and before teaching innovation). Table 2 result shows a P-value of 0.0029, which is less than 5% alpha level., this indicates that students' dissertation completion time during the teaching innovation period is significantly different from the dissertation completion

time before the teaching innovation. This difference shows a reduction in the mean dissertation completion time during the teaching innovation to 3.5 years; on the contrary, the dissertation completion time before the teaching innovation indicates an average of 4.3 years. This shows that teaching innovation phase yielded a seven months' timesaving difference. Regarding the pass mark implication, Table 1 presents the result regarding the differential significance between the research methodology mark in the two phases of research teaching (within the teaching innovation and before teaching innovation). Although the results are not statistically significant with a p-value of 0.13418l however, the mean percentage score during the innovation is higher at 68%, with a slightly lower mean percentage score of 65% before teaching innovation. The dissertation pass mark could not be analysed, as the assessment results are not yet available as of the time of writing up these results in July 2022. This project results confirm earlier research findings by (Luo et al, 2019; Boaler, 2000) that teaching-enhanced student agency may lead to significant improvement in learner academic performance and learning experience. Whereas these previous research were based on conventional academic subjects such as mathematics, this current project stands out regarding the subject where teaching innovation is applied, which is, mini-dissertation research writing.

Table 1: t-test Results

Mean dissertation completion rate			Mean proposal completion rate			Mean mark in research Method		
Mean Dissertation Completion Rate	Before TI: 4.3 years	During TI: 3.5 years	Mean Completion Rate of Proposal	Before TI: 9.45 Months	During TI: 6.65 Months	Mean Pass Mark in Research Method	During TI: 68%	Before TI: 65%
t Stat	3.293672094		t Stat	3.377250257		t Stat	1.140225632	
P(T<=t) one-tail	0.002909062		P(T<=t) one-tail	0.001581522		P(T<=t) one-tail	0.134181207	
P(T<=t) two-tail	0.005818125		P(T<=t) two-tail	0.003163044		P(T<=t) two-tail	0.268362413	

6 Conceptual Framework for Teaching Dissertation Writing

Based on the findings from the preceding project data analysis and, coupled with insights from theory and the literature, the researcher contributes by developing an agency-based inclusive framework for teaching dissertation research writing (Figure 2). This accentuates that agency based teaching can also be applied to the teaching of dissertation research writing with attendant positive results on completion time.
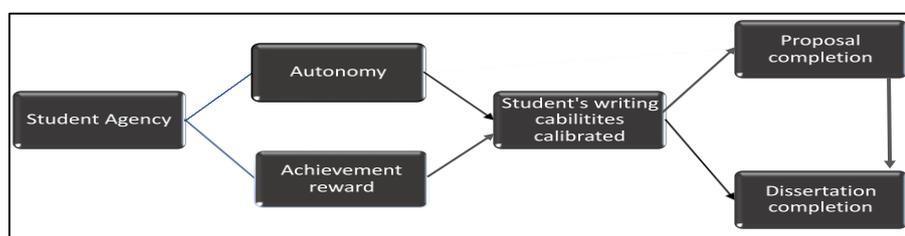

Figure 2 Agency-Based Inclusive Framework for Teaching Dissertation Research Writing
Source: Author's Original Framework

7 Outstanding Task and Way Forward

It was not possible to analyse dissertation marks since the 2020 and 2021 students' dissertations are undergoing assessments. Accordingly, the researcher will continue this outstanding portion when the data becomes available. The researcher plans to present these results to other departments at the TGSL and the faculty with optimism to influence change in research teaching strategy of these other departments with potential enhancement in students' proposal and dissertation completion time.

8 Dissemination

This project results will be disseminated to wider academic community through presentations at TAU regional network meetings and by publishing the full version of this summarised project in an accredited pedagogy journal.

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