

An Original Pentagon Approach: QUAN (Dimension reduction), QUAL (Coding), Experts opinion & Researcher's Contribution designating Leadership

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ABSTRACT:

This paper describes how a new original approach is used during research on educational performance. This method known as a Pentagon Approach is a modified, improved, contextualized and updated method of triangulation. Mixed method and even Triangulation are methods that have been used in the past but the Pentagon Method is an original piece of work. Research was conducted in Education and on academic performance of students. Both qualitative method and quantitative method were used. To support the methodology, the researcher's own 10 years' experience and observation and highly qualified apolitical Experts in the field of Education's opinion were sought, to complete the Pentagon. Data was collected through questionnaires and a dimension reduction analysis was done for quantitative data. Interviews, focus groups and case study were used to collect data for qualitative data. An InVivo coding was performed to obtain final themes. Data can either be QUAL Quantitative or QUAN Qualitative. Pentagon Approach is a new method, whereby no existing literature can be found. The closest to this method is the Triangulation method. From Greene and McClintock (1985) triangulation consists of assessing the end result of different research approach of the same phenomenon. QUAN analysis arrived to the conclusion from the factor analysis that Leadership is the most impactful, QUAL analysis by InVivo analysis also came to the conclusion of Leadership, the leader as an umbrella term and the most influential. The Experts and Researcher's point of view also culminated towards Leadership since Leadership encompasses the Education field. The apex and culminating point of the Pentagon Research method comes to common consensus from all corners of the Pentagon that Leadership has the most impactful importance in an Educational Institution, and it impacts on the academic performance of students as well as performance of staffs and non-teaching staffs. A leader and his leadership are umbrella terms that regroup all other impacting factors. Due to ignorance of research methods in the field of education, the mixed method and triangulation have not been often used and no development has occurred. The Pentagon Approach is an original piece of work with no precedent and can be used, contextualized, updated and applied in other research and other fields.

KEYWORDS: Education, QUAN, QUAL, mixed method, Triangulation, original Pentagon Approach, apolitical, factor analysis, InVivo Coding, Leadership

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I. INTRODUCTION

QUAN is an abbreviation used to represent Quantitative data and QUAL represents qualitative data. Research was conducted on the academic performance of students at Sc level. The research method used in the study was both qualitative research method and quantitative research method. Quantitative research is about collecting data through surveys, questionnaires and whereby instruments such as Likert scales are used. In the end Charts, graphs, statistical analysis is performed. Qualitative research is more about data collected through speaking, observing and listening such as interviews, focus groups and observations like cases studies. Obtaining end results from both qualitative and quantitative was not conclusive enough for a PhD study, particularly for a long study that spanned over several years, thus an innovative solution had to be found. Mixed method and triangulation do not necessarily imply the same thing. Using both qualitative and quantitative means that there is a mixture of method of data collection. According to Leech and Onwuegbuzie (2009) a mixed methods research implies that both qualitative and quantitative data has been collected and analyzed for the same study. Bowers et al (2013) and Creswell and Plano (2011) described mixed methods as a research approach whereby researchers collect and analyse both quantitative and qualitative data within the same research. Mixed methods research can comprise different types of design categories, including explanatory, exploratory, parallel and nested (embedded) designs. Greene and Caracelli (1989) stated that mixed methods research extract the strengths of both qualitative and quantitative methods and this allow researchers to explore

diverse perspectives and uncover relationships that exist between the intricate layers of our multifaceted research questions. The National Collaborating Centre for Methods and Tools, NCCMT (2015) of the McMaster University proposed 6 questions to ask when evaluating mixed methods research such as (i) does the research question justify the use of mixed methods? (ii) Is the method sequence clearly described, logical in flow and well aligned with study aims? (iii) Is data collection and analysis clearly described and well aligned with study aims? (iv) Does one method dominate the other or are they equally important? (v) Did the use of one method limit or confound the other method? (vi) When, how and by whom is data integration (mixing) achieved?

This paper goes beyond mixed method and triangulation. The objective and aim of this paper is to provide an insight of a new innovative methodology in research. The wheel is not being invented but nevertheless no literature exists on this Pentagon approach. Unfortunately, due to ignorance of methods, the mixed method and triangulation are not often used in Educational research. Since they are not used, no development has taken place thus it is an original piece of work.

II. METHODOLOGY

This research is basic research that can be used for other research. All ethical standards were observed during this research. While collecting data for both qualitative and quantitative, the respondents were informed of the purpose of this research and confidentiality was guaranteed to the respondents. Where necessary, parental consent was obtained. They were also informed not to reveal any details of the ongoing study. No gratification was provided to any respondent. The respondent and institutions involved do not risk any danger since their names have not been mentioned at any stage. The methods used in the research was both QUAN and QUAL.

III. DISCUSSION and FINDINGS

The papers rely on its originality to describe an improved research method in research. QUAL and QUAN data are the pillars of any research. Mixed method is also referred to as a third movement combining both modes of data collection. Mixed method is using both Qualitative and quantitative research approach, whereas triangulation is about finding a consensus, a comparison, a contrast, a concordance and finding consistency after both research method reached an outcome conclusion. A Pentagonal approach goes further and above by including the researcher who has ten years experience in the field of education own observations in the form of a case study form of research strategy and Pentagon Approach also take into consideration data from Experts in the field of Education. Questionnaires and Likert scale were used to collect data from those experts. Experts include apolitical PhD holders in the field of Education sector. The figure below illustrates the original formulation of a method from scratch to an outcome that as a common consensus from all possible plausible sides of the field.



Figure 1 illustrating an Original Pentagon approach adapted from Bowers et al (2013) and Creswell and Plano (2011)

IV. CONCLUSION

The validity of the research relies on the fact that all corners of research came to the same outcome. There was a common consensus that Leadership, the leader has the most influential role in a education, as a whole. In case of divergence of views , then again a consensus would had to be found. It was the case with Themes and coding whereby it was concluded that even a teacher can demonstrate leadership abilities. Whatever research is conducted, whether in performance, on students, staffs, on teaching styles, on pedagogy, the leader, embodied by the principal, the rector is the most influential. The leader is on the front line while facing stakeholders, parents, officers from ministries and even has to manage conflicts within the organization.



Picture representing Buddha (Source: L'armure d'or de la Vierge et Bouddha)

There is a quote from Buddha that says ' *a tongue like a sharp knife, kills without drawing blood*'. Leadership is a double-sided blade. The Pentagon method identified the Leader as most influential , therefore the burden and responsibilities lie on the shoulders and hands of the Leader and he is accountable for the success and failure of the school organization. Good leadership skills will result in good performance otherwise the leader will attempt actions to redress the level and the other side of the blade is that a poor quality leadership will result in a defective organization. This in turn impacts on the moral, atmosphere and school climate. A good leader brings a winning spirit whereas poor leadership demotivates the organization and does not drag the members towards the top. The leader has the duty to involve everyone within the organization towards the common goal.

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Dedication : *I, Mr Yudhistir S.M.F Jugessur, at the time I finish putting this research to paper, I thank God, that I survive this near-death experience and I am relearning to speak and articulate words correctly. I dedicate this paper to my Mother , my only support in solitude, persecution and injuries. I recover from a terrible tongue biting injury. At the eve of Mother's day 2022, my mother found me on the floor , my mouth in blood. The previous day I was victim of violence at school, the next morning when I woke up, I got a blood rush, felt unconscious , had a blackout and smashed my visage on a metal door. I lacerated my tongue. Who to blame, who to ask help, I swallowed my pride and focused on completing my PhD, eating soup and drinking with a straw.*

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