



“THINGUMBOBING AND CASTING OF LOTS” IN FORMATIVE ASSESSMENT DURING TEACHING PRACTICE

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Abstract:

Formative assessment is vital to the learning process, because it promotes valued thinking tactics, skills and strategies. In most African schools today, the most visible assessment is summative. Yet research indicates that, teachers who use formative assessment approaches and techniques are better prepared to meet diverse students' individual learning needs. Through qualitative research, paradigm approaches of observing trainee teachers on teaching practice, and reviewing written documents on assessment, the researcher observed that the use of scientific formative assessment approaches are a challenge. Data analysis found out six major barriers to wider practice of formative assessment. The most common challenge being found to be lack of scientific diagnostic assessment procedures like use of anecdotal notes and observation checklist to provide detailed and accurate assessment information instead of “Thingumbobing” or “Casting lots”. Data synthesis led to conclusions suggesting that reviewed formative assessment challenges are a result of three major causes: lack of rigorous emphasis, psychological training on assessment before teaching practice, negative attitudes by trainee teachers on detailed assessment procedures and, lack of motivation, seeing justification to carry out proper assessment procedures. In consideration of the above findings, the research recommended improved emphasis on scientific assessment procedures in teacher training programmes, mandatory policy requiring assessment record keeping during teaching practice and improvement of teacher working conditions.

Keywords: thingumbobing, casting lots, formative assessment, teaching practice

1. Introduction

While on teaching practice assessing student teachers' teaching practice documents and observing them during lessons delivery, I observed indicators of ignorance and lack of

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scientific (deliberate documented and consistent ways of assessing pupils during lesson delivery) ways of observing pupil behaviour through note taking, or deliberate recording of pupils' behaviours. One comes to wonder how student teachers during and after lesson delivery get information about pupils' behaviours during the taught lesson(s) to enter in remedial, extension records for data analysis to improve teaching and learning challenges. In some cases, I observed that only one or two pupils' performances, out of a class averaging 30-50 pupils, were recorded. Other shortfalls concerning individualised recording of observed behaviour included student teachers failing to give a written exercise during lesson delivery as an instrument to measure if lesson objectives have been met. Other observed challenges included failure by student teachers to adequately complete essential records details that could be used to understand the learner for purposes of individualised assessment.

Two important questions to ask after making and noting all these observations, are, what does the student teacher use to precisely assess the learners' performance within a lesson or series of lessons? Do they have good memories to recall all sensory observed behaviours for critical analysis and record keeping? Hence the thought that they use guessing approaches called 'Thingumbobing' or 'Casting of lots' in recording pupils' behaviours, just to fulfil teaching practice expectations of having certain records representing what ought to have been 'observed' behaviour and performance. One also assumes that, if student teachers do not physically record observed behaviour, they have an unforgetting mind that will recall all observed behaviour during the day to be used for documentation.

In agreement with the above observations (Jones, 2005; Buari, 2011) add by observing that, *"...even though student teachers study the foundations of education-emphasizing the relativity of observing and recording pupils' behaviours during their first year at college, they tend to forget to apply pedagogy foundation perspectives like learning theories, teaching approaches, assessment procedures"*. Research has also proven that, while on teaching practice, student teachers usually have challenges to link theory into practice (Hacker et al., 1998; Thakrar et al., 2009). In addition to forgetting to link theory into practice, at the apex of linking theory into practice challenges, is the challenge of trainee teachers forgetting, sometimes taking for granted that assessment for learning is the core of sound teaching or intrinsic to effective instruction, a defining element of skilful teaching and learning that should not be separated from behaviour observation according to (Black et al., 2003; Clarke, 2005; Gardner, 2006; Wiliam, 2011). Teacher's responsibilities of fostering development, assessing, planning for teaching and managing student learning are embedded in effective assessment and instructing. Therefore, authentic assessment as assumed by most student teachers should not be seen as an end process that comes after learning or teaching (Bruner, 1996; Black and Wiliam, 1998; Bishop and Glynn, 1999). This may sound obvious but very often trainee teachers and even some practicing teachers initially focus on drilling pupils to pass examinations but not matching examination passing to the intellectual capability of the obtained symbol. The concern in this research is to challenge the 'drill' teaching approaches associated with summative assessment, in favour of constantly observing

and controlling the learning process associated with formative assessment in order to make the learner an active participant of the learning process. In other words, the focus of this study is to find out how student teachers and practicing teachers could make use of scientific formative assessment approaches instead of 'Thingumbobing', to cater for individual learning challenges?

2. Methodology

This research made use of qualitative research approaches of observing students during teaching practice through note taking (Braun and Clarke, 2013). Of particular interest to this study was to observe the methods trainee teachers apply to assess pupils' learning performances during lesson delivery. The researcher complemented observations by browsing and analysing student teachers' teaching practise record books. True to the nature of qualitative research weakness of gathering data where the researcher is the sole data gatherer instrument, to avoid bias the researcher challenged his observations by reviewing textual literature on assessment challenges and benefits of scientific approaches to assessment during learning and teaching. The researcher's observations were only limited to students the researcher so happened to supervise while on teaching practice supervision. Purposeful sampling (Esterberg, 2002; Paul, 2004) was used to select literature sources thought relevant to the study at hand from libraries and the internet guided by the research title and research questions. Collected literature was analysed using note taking; open coding (Merriam, 2007; Gray, 2010). Themes were identified, described and categorised into headings and sub-headings to observe similarities and differences in data patterns. Conclusions were reached using the 'constant comparison' approach. Data collection and analysis was done concurrently.

3. Theoretical Framework

This study is mainly guided by constructivist and cognitivist perspectives on teaching and learning (Woolfolk and Margetts, 2013; Corno and Aderman, 2016). According to Constructivism, learning happens "*inside the learner's head*" (Ausubel, 1968). In other words, teachers cannot learn for students by some special "*trick of teaching*" (Randall, 2007; Petty, 2009; Wiliam, 2011; Vargas, 2013). The teacher's role is to observe how the individual learner learns and use the observed learning ways to effect further learning. Also meaning that, even when instruction is planned with great care, delivered effectively, and in a way that engages the student, the learning outcomes often bears little or no relation to what was intended (Jones, 2005; Geoff, 2009). Students instructed by the same teacher in the same environment, same content and given same activities and same resources are most likely to reach different understandings due to different cognitive capacities. Given that the teacher cannot reach inside the learner's head and put the learning there, learners are different and learn in different ways, also have different interests, learners have to construct their own learning from what teachers give them (Stiggins, 2004; Burke, 2008; Ormrod, 2008). If so then, what is the role of the

teacher? If learners can construct their own learning, the teacher's role is to facilitate and assist the learner to understand how they learn best. To improve the process of learning teachers must go beyond approaches that assumes them as fountains of knowledge but act as 'mid wives' as Socrates claimed.

Constructivism and cognitivism favouring individualised teaching approaches see learners as unique and different from each other, therefore, learning must be a focus on effective instruction guided by formative assessment observations. It is only through formative assessment that a teacher can consider individual learning abilities and capabilities, based on the assumption that children have different cognitive capacities, intellectual experiences, and develop intellectually at varied paces as suggested by Piaget, Freud, Hall and Bloom. The most important factor influencing learning is what the learner already knows.

In practical reality considering constructivism, teachers according to (Stiggins, 2005; Burke, 2005; Burke, 2006) should ascertain learner's prior experiences and teach accordingly. Cognitivism and constructivism look at assessment as an individualised process, also shared by Guy Claxton and Alistair Smith 'learning to learn' movement and education for sustainable development approaches (William, 2011; UNESCO, 2005-2014). In application the teacher's role is to help pupils through detailed observations that can be used to discuss with learners in order to assist them manage their own learning. The constructionist metaphor suggests that teaching must emphasize on how to get to an answer (thinking/reasoning) not only giving the correct answer, how to learn than focusing on the purposes of learning. It also concern itself with the importance of effective questioning and correct answering, for good questioning and answering according to (Wragg, 2004; Black, 2007) causes thinking. They also identified the importance of effective questioning strategies in advancing pupil's learning which a central concern to formative assessment procedures is. They further argue that effective questioning strategies assist the teacher to reap good questioning benefits like increasing participation of the whole class; it also deepens pupils' learning and provoke creative thinking.

4. Data Collection, Analysis and Discussion

4.1 Authentic Assessment

Given the observed challenge of failure by most teachers to demonstrate a commitment to formative assessment, four key elements and three formative assessment metaphors (Schunk, 1996; Wragg and Brown, 2001) for effective individualised learning to improve every learner's success, making them feel included, valued and secure, are mostly not achieved in the current Zimbabwe primary and secondary education. Assessment for learning elements include a teacher being able to make learning focus on learning, utilisation of effective questioning, giving formative feedback, scaffolding, reflection and promoting self-criticism and reflection in the learner (Butter and Winne, 1995; Simmons, 2002). While metaphors for assessment include the teacher, being concerned about an attempt to help the learner understand what he/she knows or is able to do.

This metaphor according to (Bloom, 1984; Musial et al., 2009; Guskey, 2010) sees authentic assessment as a *"data gathering activity"* in which the teacher assess, interacts with the learner in order to clarify what the learner needs. The second metaphor is *"judging the learner's attained standard, benchmark or level of achievement"* (Marzano et al., 1993). Third metaphor suggests that assessment can be seen as *"coaching"* (Musial et al., 2009). In this metaphor, the assessor is there to help the learner achieve a specific objective (reading, writing and adding). Along the way, the assessor gathers documented information about what the learner knows and can do or cannot do.

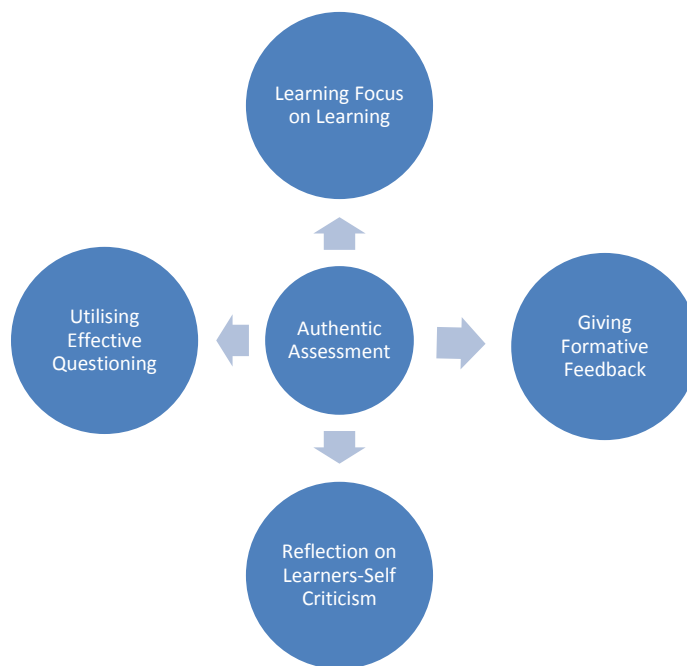


Figure 1: Four Elements of Authentic Assessment

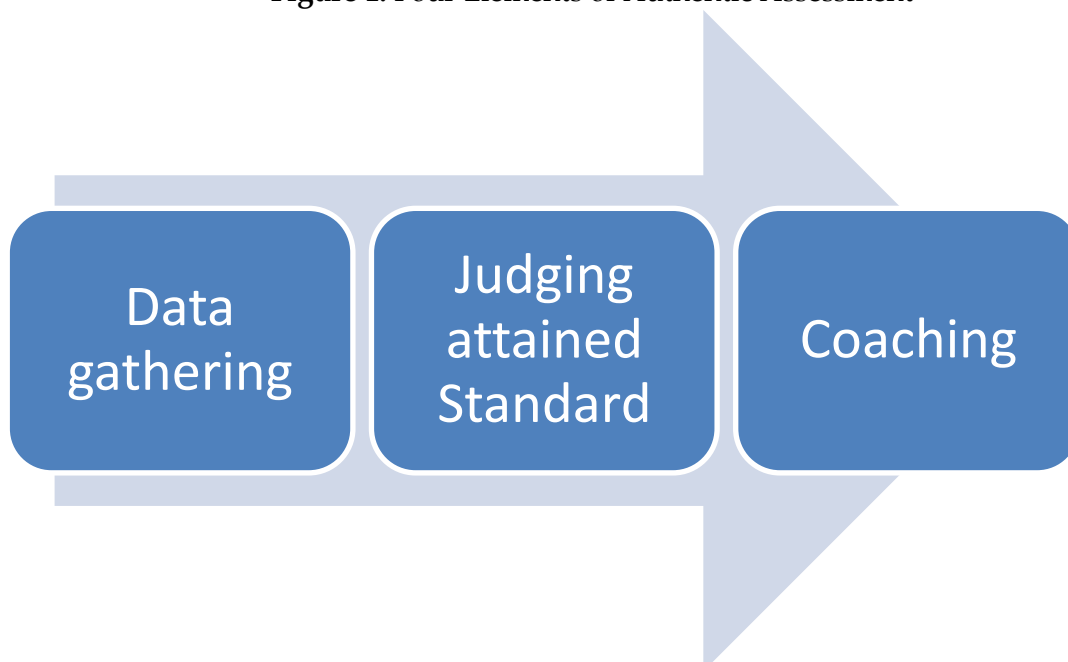


Figure 2: Three Authentic Assessment Metaphors

Both categories-four key elements and metaphors for assessment suggest that assessment occurs as part of the learning process. In other words authentic assessment is a scientific process that must be used by teachers and student teachers to observe, recognise, analyse, digest, and respond to student learning based on empirical foundations in order to "*enhance learning during learning*" (Cowie and Bell, 1999; Shepard et al., 2005). Vargas (2013:11) agrees that teaching is behaviour analysis, science based on the science of operant conditioning first developed by Skinner. However, concerning this research at hand, how can this science developed by Skinner be promoted and practiced, observed and utilised in Zimbabwe's classrooms today or under the tree? Most student teachers think of teaching as presenting information through the 'teacher talk or chalk and talk' approach, not a science of observing, documenting and recording precisely observed behaviour. There is a challenge in the 'chalk and talk' view of teaching mostly used by student teachers.

Indeed explaining and demonstrating by the teacher is often part of the teaching process. But more often a time student teachers or ineffective teachers get carried away, dominate the lesson by talking, and forget the Skinnerian and Vargasian perceptions of skilful teaching and learning. Teachers sometimes forget their key responsibilities and use of scientific standards of observing behaviour like-pupil academic profile record, note taking during lesson delivery, to avoid forgetting the behaviour that ought to be corrected or reinforced. While on teaching practice more often student teachers mainly focus and spend much of their teaching time on giving group work questions, sometimes written exercises but more often oral questions about what the teacher taught. In analysis of pupils' learning, the trainee teacher then records the marks scored by pupils in the given written exercises. The question that follows is, what happens, if at all the student teacher did observe or record other activities, to individual, pair, group written exercises and participation performance analysis?

Given the above general approach to teaching, how does the student teacher then assume he/she managed to activate pupils as owners of their learning, clearly drawing together related fields of vital learning procedures of metacognition? (Hacker, Dunlosky and Graesser, 1998), motivation of the learner's individual interests (Deci and Ryan, 1994) catering for individual attributions (Dweck, 2000) and most important studying each child's learning strengths and challenges (Hidi and Harackiewicz, 2000; Boekaerts, 2006). Limited effective teaching and learning do take place in most Zimbabwe teacher-centred classrooms.

4.2 'Thingumbobing' and Its Challenges

The narrow perception of seeing teaching as presenting information, preparing pupils for summative assessment (teaching for examinations, drilling approach), failure to make use of individual anecdotal notes, note taking observations of performance and other scientific diagnostic assessment procedures called 'Thingumbobing' or 'Casting of Lots' in this research is caused by six major barriers summarised from (Wiggins, 1998; Costa and Kallick, 2004; Stiggins, 2005; Musial et al., 2009). In agreement with the above authorities, these six barriers were also observed by the researcher while on teaching

practice supervision. A number of student teachers have the following challenges to effectively utilise formative assessment procedures for skilful teaching:

- Most teachers are not trained or skilled in administering, scoring, choosing and interpreting behaviour assessment methods appropriate for instructional decisions (Darling-Hammond and Bransford, 2005; Leu and Price-Rom, 2006).
- It's not mandatory for a student teacher to have formative assessment profiles, rating scales, interview guides like observation records of individual learners in Zimbabwe.
- All observed student teachers did communicate that, they did not know about observation instruments like anecdotal notes, behaviour observation checklist, and student checklist for self-assessment but only knew about recording class exercise and test marks.
- Due to low remuneration, most teachers are demotivated to pay detailed attention on diverse record keeping and individualised teaching and learning demands (Weber, 2007; Kirk and Dembele, 2007).
- Student teachers have a challenge of sourcing record keeping equipment and resources (Schwille et al., 2007)
- Student teachers also communicated time constraints and too-many expectations from both college authorities and school authorities hindering dedication to individualised recording keeping approaches.

Considering that, most, if not all, student teachers lack the technical knowhow of consistent scientific formative assessment approaches, the most relevant follow-up question is, what may cause these challenges to be prevalent and uniformic. Above all how could they be addressed or solved? The answer to these questions can be summarised from diverse schools of thought. This research focused mainly on three answers:

- Lack of rigorous emphasis in psychology of assessment during initial teacher training (Meyer et al., 2008).
- Attitudes of student teachers who take formative assessment as mere theory and may not be familiar with its practical benefits (Keefe and Jenkins, 2003; Barrow et al., 2006)
- Lack of staff-development programmes on formative assessment and poor research facilities (Thakrar and Zinn, 2009; Robin, 2000).

Concerning the three challenges that cause teachers to be incompetent in scientific formative assessment procedures, Bishop (1989:64) particularly argues that, educational policies in the past have tended to focus on "*...increasing the quantity of school output with little serious attention to effecting the necessary qualitative changes*" like *management, content, methods of teaching like formative assessment needed to make it "function more efficiently"*. Ginsbury (2006:1) agrees with Bishop concerning lack of rigorous emphasis on the relevance of formative assessment by suggesting in-service education based correctional approach, on the opinion that, when teachers are actually involved and empowered to reform their teaching, even those teachers with minimal understanding of the significance of all-round assessment are capable of changing to

become effective in implementing active-learning. Even though in-servicing could assist, another school of thought argue that, all these challenges require more than in-service approach (UNESCO, 2007; Moon, 2007; Farrell et al., 2007; UNESCO, 2016), require teachers who are empowered and empower themselves to think critically about their work. However, all these solutions demand resources and reference materials to guide and grow teachers' classroom practices. But, resources are frequently scarce in Zimbabwe, if not most African education systems. Despite challenges, there is also a need for teachers to improve using basic available minimal resources.

4.3 Why Teachers Should Rely on Scientific Assessment Approaches Instead of 'Thingumbobing'

Teachers should rely on scientific assessment approaches because research has proven them reflective of reality and consistent in effective learning and teaching (Jones, 2007; Burke, 2008; Meyer et al., 2008). Also because teaching is a science, scientific assessment approaches are reliable, can be studied, analysed and improved, they also mitigate human weaknesses of bias and forgetting. Literature review (Yero, 2002; Costa and Kallick, 2004; Ginsburg, 2006; Burke, 2006; Wexler, 2008; Ormrod, 2008) has also indicated other direct benefits of using scientific formative assessment instruments like:

- Quantifying information to identify learning errors in pupils' work immediately;
- Provide clarification and further follow-up-feedback;
- Improved understanding of the learner based on gathered data and academic performance;
- Increase learner empowerment, learning ownership, motivation and confidence;
- Greater student awareness of their limitations and their ability to manage them;
- Promote skilful planning, strategizing, monitoring learning enabling teachers to provide "dove-tailored" and individualised tasks for pupils for long-term independent intellectual development, and
- Fostering social inclusion by countering alienation.

Advocates of formative assessment (Black et al., 2003; Clarke, 2005; Wiliam, 2006; Guskey, 2010) argue that assessment can be used not just to measure learning but to promote learning. Formative scientific assessment procedures are vital to any effective learning process. Teachers using these are better prepared to meet diverse students' learning needs according to Black and Wiliam (1998:61). Quantitative and qualitative research as observed by (Bruner, 1996; Bishop and Glynn, 1993; Monsen, 2002; Simmons, 2002; Lander and Ekholm, 1998) has also shown that formative assessment is perhaps one of the most important interventions of promoting high-performance ever studied. The findings provide a strong foundation for further research to question its relevance in Zimbabwe? One of the particular interests of this study has been in examining how student teachers could create or strengthen cultures of scientific learning evaluation? Formative assessment while not a silver bullet and the only way to solve all Zimbabwe educational assessment challenges offers insightful assessment alternatives.

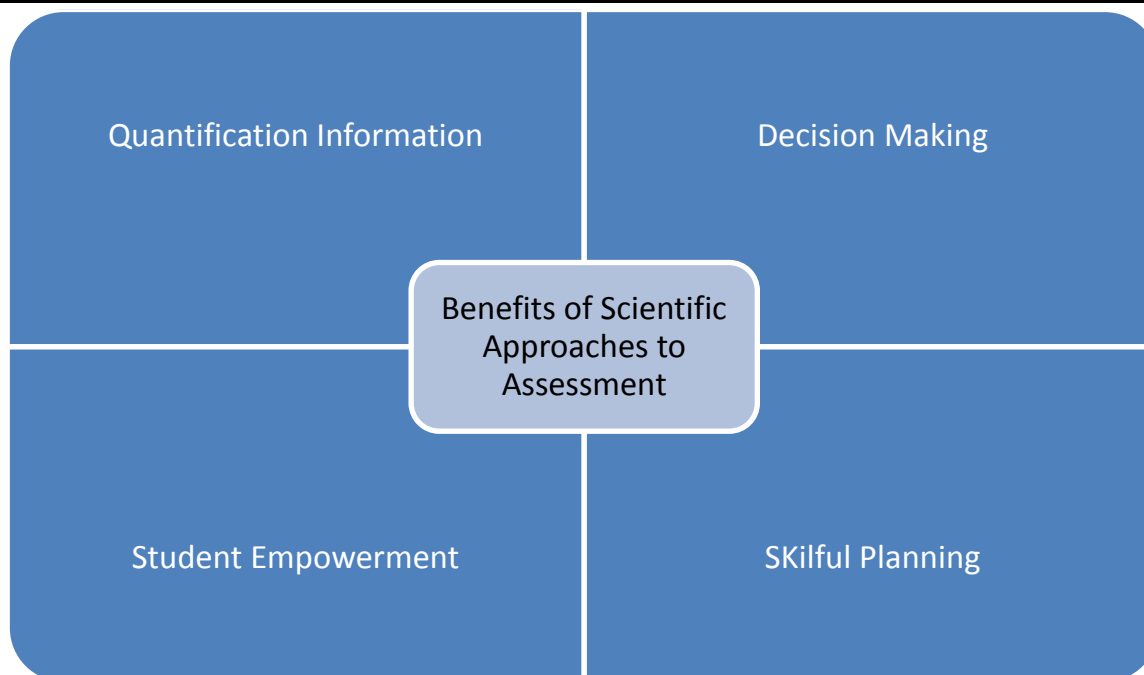


Figure 3: Benefits of Scientific Assessment Approaches

5. Findings

This study found out the following:

Most, if not all, student teachers do not use observation assessment instruments to show empirical observations of pupils' behaviour during lesson delivery. Reviewed literature associated student teachers' failure to practice scientific formative assessment procedures with three major causes, mainly: lack of rigorous assessment academic foundations during initial teacher training and after training-complemented by teacher negative attitudes including failing to appreciate the benefits of formative assessment, and lack of adequate teaching-learning equipment and resources-complimented by demotivating working conditions such as high teacher-student ratio and poor remuneration currently prevailing in Zimbabwe.

Literature review and teaching practice supervision observations indicated six pointers indicating barriers that affect authentic assessment in the Zimbabwe education system: such as lack of legal framework binding teachers to have documented scientific assessment observation records, less emphasis by school administrators and teacher training colleges authorities on formative assessment compared to summative assessment, lack of supportive equipment and resources to motivate teachers to be dedicated, consistent and thorough, and limited research on the benefits of formative assessment both for the teacher and learners.

The study also discovered that these barriers affecting authentic assessment can be mitigated by strengthening teacher training education programmes, in-service and develop formative assessment research culture in teachers to appreciate and be versed with current assessment challenges.

Data collected and analysed also indicated that applying scientific approaches to assessment is an anti-dote to 'Thingumbobing and Casting of lots' and beneficiary in the long-term. It reduces teaching fallacies, bias, improve understanding of individual learners in order to come up with dove-tailed teaching and learning activities.

There is an intertwined relationship between effective teaching-learning and scientific behaviour observation approaches inseparable to the art and science of teaching but unfortunately not seen and utilised by most teachers in the Zimbabwe education system.

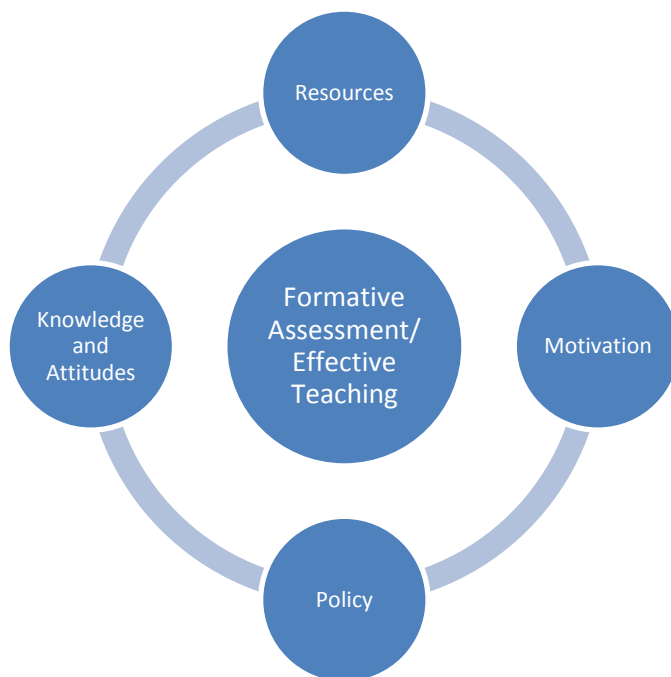


Figure 4: A Summary of the Research Findings

6. Conclusions

The idea of formative assessment promoting effective teaching and learning is not a new concept in the history of pedagogy, yet a contemporary challenge in the Zimbabwe education system. For the challenge to be overcome, student teachers and practicing teachers have to get used to the irreversible idea that scientific approaches are an intricate part of effective teaching and learning anatomy as discovered in this study. The rampant challenge of teachers 'Thingumbobing' in classrooms is caused by a number of barriers worsened by teachers' ignorance, lack of dedication, and negative attitudes leading to pupils not acquiring adequately expected education exit skills, but achieving 'meaningless' certificate education. However, even though teachers are partly to blame, one cannot conclude to say failure to apply scientific formative assessment procedures is entirely a teacher based challenge. It is also linked to other contributively education challenge forces like the need to improve, teacher working conditions, access to technology, information knowledge and resources, intellectual culture practices, sustainable understanding and appreciation of skilful teaching and learning. Failure by student teachers and practising teachers to fully apply assessment for learning

approaches cannot be addressed by individual change but need a system revision approach including making formative assessment mandatory.

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