

Conditions for Evaluation of Mathematics Within Competence Based Approach (CBA), Mfoundi Division, Yaounde

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ABSTRACT

The study sought to investigate the conditions to which Mathematics evaluation operationalization in teaching/learning within the Competence Based Approach (CBA) can improve pupil's performance. The researcher used survey research design within which observation was used both for teachers and pupils to collect data. The target population was 500 pupils from 29 Anglophone primary schools in Mfoundi division, using the stratified sampling techniques and a sample size of 63 pupils was obtained in Yaoundé VI Sub-division. The research was conducted with the review of related literature with the main theory being Stufflebean's (1973) context, input, process, product (CIPP) theory. An observation grid (Flander's Integrated Analysis System, FIA) was used to collect data and analysed using descriptive statistics (percentages). This resulted that operationalization of evaluation of Mathematics within CBA has short comings, (evaluation is not within the dynamics of the learners learning, not within the context of collaboration), does not rest on the professional judgement of learning, does not reflect the politics within which the ministry (state) wants, does not reflect ethical consideration divided by the different interveners, not being functional (justice, equity and equality) and instrumental (rigor, coherent and significant)

Key words: Mathematics, Evaluation, Competence Based Approach (CBA), Performance

INTRODUCTION

As time changes, every society will always strive to improve the level of education. Within a society that there is a general cry of falling standards in the educational system, there are always fora for reforms based on the nature to which improvements can be obtained. Teaching/Learning seems to be at the centre of any reform. Teaching/learning In Cameroon by 2018 experienced some reforms from Objective Based approach (OBA) to Competency Based Approach (CBA) in Basic education based on the standards of education which started since 2003. Nuh Mih (2017) defines CBA as a system of instruction, assessment, grading, and academic reporting that are based on learner's demonstrating understanding or mastery of the skills they are expected to learn as they progress through their education. Kiwoh Nsai (2021) states, CBA as one of the scientific method of instruction/evaluation in this perspective as an emerging concept in the Cameroon educational system. This is in line with stufflebean (1973) CIPP evaluation model that evaluation is to improve and not to prove. Improving within a system of instruction, assessment, grading and academic report is one of the means to obtain finalities (competences) in learning and one of the objective for reforms in 2018. According to Mc Guire (2001) competence is "an action, behaviour or outcome which a person should be able to demonstrate". This definition focuses on what a person can do (output). Kirschner et al. (1997) view competence as the ability to choose and use the attitudes, knowledge and skills that are needed for performance at a desired level.

Based on the domains of learning, the Cameroon Ministry of Basic Education (2004) had distinguished three main components of the competence to be developed in the learner: the cognitive (knowledge), affective (attitudes) and psychomotor (skills), for problem solving skills in real life situations. Richard (2006) for his part identifies the nature of objectives according to the CBA. To him objectives are broken into narrowly focused sub objectives, so that both teachers and students can get a clear sense of progress. Richards and Rodgers (2001) further opines that each approach needs specific teaching materials in order to realize the aim of its foundation. So viewing the development process as an integral part that you will be able to build on what is working well

and eliminate efforts that are less effective known as evaluation or assessment and Learning takes place in learner's heads where it is invisible to others. This means that learning must be evaluated through a process of determining the worth, merit or significance using criteria of standards for a study or course through a particular behaviour called performance. Oxford English dictionary (19...) defines Performance as the process or manner of doing a piece of work, something one is ordered to do, agreed to do (task, outstanding action or achievement, one's study) to act an operation to save life or operate efficiently. In this light the researcher then sees performance from an actual evaluation of school's program of the curriculum to be effective (realise the objectives of a program), efficient (carry out a good usage of the resources like quality, cost, time, etc), doable, (the knowledge is well perceived and will have generate sustainable advantages), durable (assure that the outcome will take within time), impact (the knowledge should have great positive impact as to the negative impact), pertinent (in concordance with the beneficiary's needs). But performance from learning in the primary schools in Cameroon especially in certain subjects considered a skill (competence) is questionable. Performance can actually be observed in Mathematics. Phenix (1964) says Mathematics is representation of cultural construct that can provide the analytical means in evaluation. He sees it as the basis of all social sciences and economic development. Mathematics science constitute the bases for any development and in particular the development of a country. CS Pierre (1997, P 27) defines mathematics as the study of what is true of hypothetical states of things, and is the science which draws necessary conclusions. This means that in activities that involve mathematics, at the end is evaluating the learning profile of the learner which requires what will prove his /her competences. Aderemi O. Kuku (1990) in Mathematics science and African development, noted that 'since we cannot have technology without science and neither could we have science without mathematics, it is clear that social and economic development of a country or continent ultimately depends on its development in the mathematical sciences' this is because mathematics is a science of well-defined objects and notions that can be analysed and transformed to different ways using "mathematical reasoning" to obtain certain and timeless conclusions. Meaning mathematics is found in all the disciplines in education. But can our pupils prove competences even in mathematics with the attitude (phobia) they have, to be the most difficult subject affecting their performances in examinations and practical life activities in our today's primary schools? Although the adjudication about all the facets of instructional outcome is not only on evaluation (but also methods of instruction, learning experiences /activities), the value of evaluation is fundamental (providing justice, equity and equality), it is instrumental (providing rigor, coherence and transparency), and improved performance is based mainly on actual evaluation. Does the procedure of evaluation in the primary schools within the CBA provides access to all these as information gathered is not reviewed in the system? Well, continuous assessment could, but the researcher is afraid it is tailored by evaluators to suit their needs, not that of the pupils since the researcher thinks most teachers don't master the concepts as they claim mathematics is difficult.

Performance in this subject or competence, continues to be ineffective (not meeting the stated objectives as pupils cannot identify nor solve mathematical problems in their day to day life activities. MINEDUB (2018) states, performance in Mathematics not yielded expected fruits), inefficient (pupils can't carry out a good usage of the resources as cannot use the knowledge of Mathematics in their daily activities or projects. Akemche (2014) state failure rate in Basic education in Mathematics 40% and many drop out from school), not doable (cannot assure that the outcome will take within time, pupils even if passed exams like common Entrance exams, are not sure to passed interview. 2015 millennium goals even 2018 reforms), limited impact (the knowledge is not having great positive impact as to the negative impact. Pupils develop negative attitudes that Mathematics is very difficult), not pertinent (is not in concordance with the beneficiary's needs as learners can't identify the need of Mathematics knowledge acquired). This is supported by Peter Williams (2008) in independent Mathematics teaching in early years setting and primary schools that 'Mathematics is a problem internationally and which has promoted actions in all advanced nations. Mathematics is very important in everyday life. But as a teacher, this researcher has observed that many pupils face a lot of difficulties understanding this subject. Can an actual operationalization of Mathematics evaluation in a scientific method (CBA) improve pupils' performance?

The CBA advocates the learner-centred approach in which the learning process is central. Therefore, generally for the implementation of evaluation in CBA to be effective, certain activities must be put in place, for example, the instructional materials must be the ones that can motivate the learners and provide information in interesting way, bring the real life situation and cultural information to the classroom, supply learner with real exposure to

the target language, and meet the needs of the learner. In the context of Mathematics instructional evaluation, remediation efforts should focus on negotiating a deeper understanding of mathematical concepts through a gradual, level-by-level approach, rather than simply providing formulas. This approach enables students to build a strong foundation and develop a more nuanced understanding of complex concepts. Field and Drysdale (1991) point out some of the aspects of a learner-centred approach such as the use of individualized materials, flexible learning time and continued feedback. In this regard, the implementation of CBA should ensure that all aspects of a learner-centred approach are included in the learning process. The Learning environment in the CBA is therefore directed towards the development of competencies at the end of any study program (Kirschner et al, 1997). Based on the functions of Mathematics evaluation in CBA, CBA should work within certain conditions Viz

Evaluation of mathematics should be integrated in to the dynamics of the learners learning

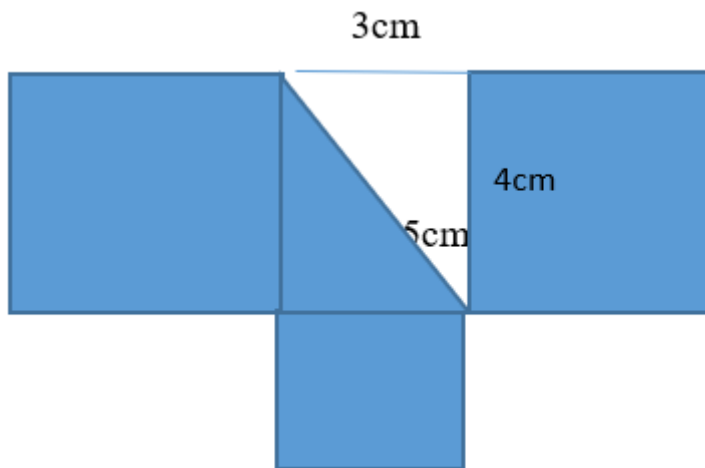
For evaluation to improve performance, one of the condition within CBA that should be applied is that, evaluation should be integrated into the dynamics of the learners learning and be in the context of collaboration taking into consideration each stakeholder's responsibility. Meaning, the evaluator during evaluation, should allow the learner demonstrate understanding or mastery of skills expected.

Learner demonstrating understanding or mastery of skills expected. This approach in mathematics requires that within evaluation of mathematics in teaching/learning, evaluators take care of each learner, see where the learner is good at in demonstrating understanding. Stufflebean (1973) in CIPP model looks at this as the main theme in evaluation's most important purpose which is not to prove but to improve learning.

Demonstrating understanding, is when the learner within and or after a teaching/learning activity, explains, say, describe, state, etc in response to the pedagogic activity. That is responding to something that has or is taking place (performance influenced) or something taught or being taught. In this the learner is expressing understanding or knowhow in response to the request. Meaning that the learner has to see the practical benefit being motivated and well engaged employing improved ability to understand competencies and learning achievements. Tambo (2012) in Behaviourism defines this as reasoning, as a relatively permanent change in observable behaviour which is not the result of natural processes such as growth or maturation nor of temporary effects such as fatigue and drugs. In Mathematics this is when the evaluator sets a concrete direction for workforce performance that aligns with organisational goals and strategies, allow learners to take ownership of the skills and behaviour required of them in their roles and to empower learners to keep track of what skills learners have, so that strategy and planning can work towards that future skills may be needed. Evaluation of Mathematics is done within the teaching/learning situation, making teaching and Evaluation two sides of the same coin, since something taught can't be without evaluated and we can't evaluate what has not been taught.

The University of Buea in DED 204 (2011, p 48), defines teaching as, the activities before, during and after interacting with the learner for learning to be effective. Tambo (2003) states that evaluation in teaching is at all the stages of a pedagogic activity. Meaning before evaluation in teaching/learning activity, the Evaluator has to take a concrete direction for work force performance to align with instructional goals. That is, the evaluator in evaluation of Mathematics carries out before interacting with the learner known as, placement evaluation, as the learner respond to express characteristics of the intelligent, affective and psycho-motor trait to establish a baseline from which growth can be measured. This is also done within presentation at the introduction known as diagnostic evaluation where the learner is linked from known to unknown, to approve the aptitude of the learner in going through the course. Formative evaluation also is done as learners respond expressing discovery, through independent activities done during presentation to provide necessary feedback on the learner's progress in the acquisition of learning and aiding the evaluator in appraising the effectiveness. There is also evaluation after interaction known as summative evaluation, to determine the effectiveness of the program, planning for improvement, revision and so on. Therefore, teaching/evaluation of mathematics using the CBA through evaluation, this condition (demonstrating understanding) permits the evaluator take reasonable decisions for the learner towards onward transmission of the knowledge skills and attitudes to problem solving in the classroom and society in general. Stufflebean (1973) within the CIPP model, identifies this as process evaluation. That is evaluation evaluating the problems or bottlenecks that make the teaching/evaluation activity not to succeed the way it was supposed to. In the primary school, Evaluating mathematics within the teaching learning process in

the Cameroon context within the CBA, learner’s demonstration of understanding requires demonstrative teacher learner interaction, learner material interaction (collaboration) with the evaluator being a facilitator to enable improved performance. **For example**, in a mathematical problem “to look for the side of a right angle triangle or sharing a rectangular field diagonally to obtain two triangular plots”, where the length of the longest side separating the two plots into two triangular fields is to be found or looked for. In this light the solution is demonstrating understanding within Pythagoras theorem. Pythagoras theorem states that for all right angle triangles, the square of the hypotenuse = the sum of the square on the other two sides. That is $C^2 = b^2 + h^2$, where, C is the hypotenuse, b is the Base and h is the Height. In teaching/evaluating this, the evaluator may begin with placement evaluation (plan and executing objectives) before interacting with the learner giving directives towards performance to be achieved in the unknown future. During interaction (presentation), he/she takes on diagnostic evaluation as the first stage of enabling the learner demonstrate understanding. This is enabling the learner respond to revision at the introduction stage identifying where to place the learner and revising learner’s aptitude by enabling the learner demonstrate understanding (allow the learner keep track of what skill he/she has for strategy to work towards the future skill) of a square or a number in the index form and how to look for the root of a square number as the learner respond to the evaluator, demonstrate understanding assuring the evaluator with the knowhow. Feedback from this provides directives to the instructions/evaluation This is followed by formative evaluation where the evaluator enables learners demonstrate understanding through responds by presenting three squares with the middle forming a right angle triangle for learners to discover by responding to something as follows



The facilitator enables learners obtain the formula by allowing the learner take ownership of the skills and behaviour required of him/her through formulation of hypothesis, as he makes sure learners identify shapes in square form, their squares and to discover that the two smaller shapes equals the biggest as required in the roles. Responses on questions from the squares demonstrate understanding obtaining their roots, permit them to discover that the hypotenuse’s length is the length of the various sides of the biggest square and the roots of the squares of the others (base and height) which equals the hypotenuse, that is, $\text{hypotenuse} = \sqrt{B^2 + H^2}$, being the role (formula). The evaluator provides a consistent and fair system of measurement for performance evaluation by demonstrating understanding through verification of the hypothesis that could also be done through making either sides the subject of the formula, obtaining formulas for those sides, that is for the base or the height for confirmation. The evaluator organises this to keep track of what skills the learner have so that strategy and planning can work towards future skills that may be needed. Independent practice is then done attributing the formula through real life situation, thereby consolidating the idea to discover the progress in the activity. After this summative evaluation is then done through responses from exercises (written), observations (orals and attitudes) and pedagogic projects (practical) integrating it with the environment to determine the attainment of the objectives. These applied in evaluation of mathematics, permits the learner to discover the vacuum within the light of amelioration enabling the realisation of objectives of the program. Evaluation within the CBA is carried out in all the three domains of learning where alternative demonstrative methods are used permitting learners exploit the environment in real life situations thereby discovering the vacuum during and after presentation of lessons within the light of amelioration from feedback. Evaluation in this light which takes the form of placement, diagnostic, formative and summative evaluation using both cognitive and non-cognitive

instruments of data collection in orals, written and practical, sets a concrete direction for workforce performance that aligns with organisational goals and strategies. This enables the learner takes ownership of the skill and behaviour required of them in the role, guides the learner discover the means of the application of mathematics in problem solving both in and out of the classroom, enabling the development of mathematics problems solving attitude, takes off the phobia that mathematics is a very difficult subject thereby improving performance.

The researcher begins to wonder if this is what is done in our primary schools in Cameroon? He thinks the evaluators stick on objective based approach where they teach, not guiding and teaching is not demonstrative as they lecture in the name of explaining, providing learning formulas subjectively forcing learners to cram and learners can't obtain meaning especially when formulas became many they forget. This is seen in the various schools as teachers teach but do not evaluate.

Within the CBA not only the learners demonstrate understanding but the evaluator as Objectives are stated, he/she evaluates items specified in a table of blue print and are presented in a document called a real life situation. This permits evaluators blend content and objectives for specified number of items based on the said objectives. Items set, as was taught (focused on objectives) are direct and clear within the evaluator's mind in the process of learner's problem solving thereby enabling him/her improving performance. Evaluation is focused on the learner's performance permitting the learner discover the vacuum, keep track of what skill to employ so that strategy and planning can work towards that future skill that may be needed. If this is done within this CBA condition, evaluation of mathematics will influence performance to be effective (realise the objectives of the program), efficient (carry out a good usage of the resources like quality, cost, time etc) doable (the knowledge to be well perceived and will have generate sustainable advantages), durable (assure that the outcome takes within time), impacting (the knowledge should have great positive impact as to the negative impact), pertinent (in condolence with the beneficiary's needs), improving the management of mathematics evaluation and guiding the achievement of the purpose of mathematics evaluation. Therefore during evaluation within demonstrating understanding, the evaluator has to integrate evaluation into the dynamics of the learner's learning to avoid short comings by;

- Set general objective, taking into consideration, the beneficiaries, needs, resources, problems and the environment (that is set general objectives real life situation with items specified on the table of specification)
- Evaluation should be in all the three domains of learning (practicals, written and orals) that is, reflect the politics within which the ministry (state) wants as in the 2006 new evaluation law (they are the institutional actors that are to submit certificates) and should reflect ethical consideration divided by the different interveners (facilitating or guiding not explaining)
- Formative and summative evaluation should be facilitated using demonstrative methods that guides learning, meaning that Evaluation should rest on the professional judgement of learning (the teacher has to avoid subjectivity and to pre-avoid bias using a consistent and fair system of measurement for performance evaluation.
- Both cognitive and non-cognitive data collection instruments should be used that is making sure that test, observation, interview, questionnaires and other instruments should be used.
- Item analysis should be done. Meaning that Evaluation should be functional (justice, equity and equality) and instrumental (rigor, coherent and significant)
- Remediation should also be done during correction. That is, Evaluation have to contribute to ameliorate the quality of the spoken and written language of the learner, be in view of the learning sanctions giving account to the acquisition of the competences and guarantee the value of official title.

General objective

- To exploit the nature to which operationalization of evaluation of mathematics in teaching/learning within CBA can improve pupil's performance.

Specific objectives

- To determine short comings from evaluation of mathematics within CBA in the achievements of teaching/learning objectives in Basic Education
- To determine how alternative patterns or design in mathematics evaluation in teaching/learning within CBA can improve pupil's performance
- To determine how remediation from feedback in CBA can improve pupil's achievements of learning outcome
- To determine how follow up can improve pupil's performance

METHODOLOGY

An observation grid was developed to the theoretical model as observation instrument (the verbal interaction analysis system, 'VICS') for collecting information for evaluation of mathematics in teaching/learning during evaluation, which was a modification of the Flander's interaction analysis system (FIA), modified by Amidon and Hunter in 1975, was adopted from Amidon, E. and E, Hunter (1967) in "verbal interaction in the classroom: the interaction category system by the researcher". This instrument is to categorize the type and quantity of dialogue in the classroom and the information plotted on the metrics during and after analysis of pupil's mathematics assessment. It has 17 categories with five broad sections which are comprehensive and more specific because it takes into considerations minute details such as pupil's response to teacher without waiting for unpredictable questions. The researcher then uses the information plotted on the metrics to clack. The clacking is done after every 3 - 5 seconds, chosen by the researcher. It focuses directly on the behavior of the teacher (competence Based Approach, CBA) and learners in exploiting the operationalization of evaluation in teaching/learning; it is more pervasive and fundamental practice in human and natural sciences. The 17 categories are;

1st category. Teacher initiate talk .

- 1) Teacher present information or opinion
- 2) Teacher gives direction
- 3) Teacher asks broad questions
- 4) Teacher asks narrow questions

2nd category, teacher response. (response to)

- 5) A) Idea B) Behavior C) Feeling
- 6) Rejects a) Idea B) Behavior C) Feeling

3rd Category, pupil's response, (Response to)

- 7) A) predictable questions B) Unpredictable Question
- 8) Pupils response to pupils

4th Category, Pupils Initiate talks

- 9) Pupils response to teacher without waiting to unpredictable questions
- 10) Pupils response to another pupils

11) Silence (a pause)

12) Confusion

5th Category, Others

The researcher then adopts this instrument from Amidon and Dove (1967-1970) Flander’s analysis with categories focusing on verbal behavior, to find out if the instrument can be used during our primary school evaluation of mathematics, to determine both the process of evaluation of mathematics and the pupils and teacher behavioral product through evaluation (the working habits, adjustment and interests) and the extent to which information from the affective domain can influence pupils performance.

The researcher then used the instrument as a non-participant observation evaluation instrument and the evaluation took place in the classroom. In other to clack the observer used an Observation clacking sheet, which is what the Observer took to the observation center. The clacking was done based on the occurrences items (teacher/pupil’s behavior) within a category and the number of the item of that particular category was written or clacked. The clacking was done after every 5 seconds. Here, the number of the occurring events (behavior) was written beginning with 10 and ending with 10. After obtaining the clacked figures, we now pair them into a metrics form as seen below. Each block in the sheet represented the number of seconds he was working with.

10, 1, 4, 2, 4, 5, 5, 3, 7, 10, 2, 2, 6, 7, 7, 3, 4, 8, 8, 5, 5, 6, 1, 1, 2, 3, 3, 7, 10, 10, 1, 5, 5, 8, 6, 8,
 10, 3, 3, 2, 2, 7, 9, 9, 5, 5, 10, 8, 7, 9, 10, 3, 6, 5, 4, 8, 6, 7, 7, 5, 5, 4, 4, 1, 2, 8, 7, 10, 1, 1, 3, 3,
 1, 5, 8, 6, 9, 9, 4, 4, 9, 9, 10, 3, 2, 1, 3, 4, 5, 7, 8, 6, 6, 5, 10, 9, 8, 6, 3, 2, 1, 5, 4, 3, 2, 3, 5, 9,
 10, 9, 8, 6, 4, 5, 4, 6, 8, 3, 4, 5, 3, 2, 1, 4, 7, 7, 2, 1, 2, 3, 2, 1, 1, 5, 5, 3, 2, 1, 1, 5, 5, 3, 2, 1, 1, 2,
 4, 5, 6, 7, 9, 10, 2, 1, 3, 4, 5, 1, 2, 7, 8, 10, 6, 4, 4, 2, 1, 1, 3, 4, 7, 1, 3, 2, 1, 5, 5, 2, 8, 7, 10, 2,
 1, 7, 9, 10, 4, 8, 6, 4, 8, 7, 10, 5, 3, 7, 10, 2, 2, 6, 7, 7, 5, 4, 8, 8, 5, 5, 6, 1, 1, 2, 3, 3, 7, 10, 10, 1,
 5, 5, 6, 8, 10, 3, 3, 2, 2, 7, 9, 9, 5, 5, 10, 8, 7, 9, 10, 3, 6, 5, 4, 8, 6, 7, 7, 5, 5, 4, 4, 1, 2, 8, 7,
 10, 1, 1, 3, 3, 1, 5, 8, 6, 9, 9, 4, 4, 9, 9, 10, 3, 2, 1, 3, 4, 5, 7, 8, 6, 6, 5, 10, 9, 8, 6, 3, 2, 1, 5, 4,
 3, 2, 3, 5, 9, 10, 9, 8, 6, 4, 5, 4, 6, 8, 3, 4, 5, 3, 2, 1, 4, 7, 7, 2, 1, 2, 3, 2, 1, 1, 5, 5, 3, 2, 1, 1, 5, 5,
 3, 2, 1, 1, 2, 4, 5, 6, 7, 9, 10, 2, 1, 3, 4, 5, 1, 2, 7, 8, 10, 6, 4, 4, 2, 1, 1, 3, 4, 7, 1, 3, 2, 1, 5, 5,
 2, 10

These pairs were then used to plot a metrics table. It shows the total number of occurrences within each category within the subject which a particular behavior can be determined. From here we then use the pairs to plot the metrics table, using the pairs starting with row and column.

Table 1; Showing a metrics table

Occurrences Categories	1	2	3	4	5	6	7	8	9	10	Total
1	xxxxxxx	xxxxx	xxxxxxx	x	xxxx		x				25
2	xxxxxxxx	xx	xxx	x			x	xx		x	18
3	xx	xxxxxxxxxx	x	xxx	x	x	xx				20
4	x	x	x	xxxx	xxxx		xxx	xxx	X		20
5			xxx	xxxxx	xxxxxxxx	xxxxx	x	x	X	xx	29

6			x	xx	x	x	xxx	xxxx	X		13
7		xx			xxx		x	xxx	xxxx	xxxxx	18
8					xx	xxxxx	xx				09
9				x	x			xx	xxxxx	xx	11
10	xx	xx	xxxx	x		xx		xx	xx	xx	17
Total	20	22	21	19	24	15	15	18	14	12	180

From the pairings we can then determine what is happening in Evaluation of the subject using the ratios to determine the proportion of the initiatives and responses of both the teachers and pupils. At this level to determine teacher’s component of initiating talk, we calculate the proportion of the total component of teacher initiating talk in the subject to the general total. That is

$$\frac{\text{total of teacher initiative talk}}{\text{general total}} \times 100 = \frac{25+18+20+20}{180} \times 100 = 46\%$$

$$\text{Teacher’s response} = \frac{\text{total pupils response}}{\text{general total}} \times 100 = \frac{29+13}{180} \times 100 = 23.33\%$$

$$\text{Pupils responses} = \frac{\text{total pupils response}}{\text{general total}} \times 100 = \frac{18+09}{180} \times 100 = 15\%$$

$$\text{Pupils initiate talks} = \frac{\text{total pupils initiate talks}}{\text{general total}} \times 100 = \frac{11+17}{180} \times 100 = 15.56\%$$

These results shows that, the influence of the teachers initiating talk to reinforce evaluation of mathematics was very high with 46% indicating teachers (evaluators) effectiveness in planning both the process and behavioral product although within a wrong criteria; the use of time, demonstration of intuitiveness, indicating a high attitude of working habit in mathematics via a wrong criteria. This shows the attitude (sticking to the Objective Based Approach, OBA) the evaluators have towards evaluation of mathematics in discovering the level of attainment of specific objectives and level of the application of formative evaluation. But the teacher is within the objective based approach where he takes more of the time in the provisions and explanation of formulas and concepts, not facilitating or negotiating. Thus meaning evaluation is not within the dynamics of the learners learning and not within the context of collaboration, that is, the evaluator does not allow the learner to keep track of the skills and behavior he or she has so that strategy can work towards that future skill may be needed. The learners do not take ownership of the skills and behavior required of them in their roles thereby cannot demonstrate their understanding because the evaluators explains using rhetoric question tag. Learning in this condition cannot be constructed, learners cannot demonstrate their understanding for observable thinking, thereby indicating short comings in the evaluation of mathematics (operationalization of evaluation is only in the cognitive domain, it does not enables thinking, the evaluator does not take a concrete direction for work force performance to align with the objectives, evaluation findings are challenged or utilization has failed making learners to find the inference weak or the warrants unconvincing etc).

Teacher’s response with 23% indicated that teacher expressed feelings, aesthetics and social recreation without providing a fair and consistent system of measurement for performance evaluation. This indicated a high sense of affection in evaluation of mathematics but where teaching/learning doesn’t enable evaluation more accurately identify learning and training needs for learner’s achievement of learning outcome. Meaning that the learner is not called up to realize the activities of learning and the evaluation of competences from the learner situation even in the individual appraisal of the learning. Evaluation does not favor the active role of the learner within the activities thereby not augmenting learner’s responsibilities (auto evaluation/evaluation of teachers by the pupils). This means that evaluators are not using any alternative method to meet up with learner’s expectations. MBAS Kool (2012 P.17) states that a consumer usually develops a host of options to choose from while looking for a particular product or a solution per se. He then evaluates the various options with one another against

certain criteria. He calls this process Alternative Evaluation. AURORA INSTITUTE (2022) states three common features of CBA “learning centred classrooms support multiple modalities, responsive facilitation of learning in action, learning experiences that foster engagement, access and rigor”. In this we see that evaluators have various strategies available for learners to engage with the content and demonstrate what they have learned. The alternative pattern is a Competency Based learning practice that recognises and adjust to meet the needs of individual learners. This condition is in multiple facets and apply to learner support communication and interventions as well as learning processes. In this light we see that evaluation doesn’t rest on the professional judgement of the learners learning and does not reflect the politics to which the ministry wants.

-Pupil’s response and pupils initiating talk each with a 15% indicate pupil’s in-adjustment towards evaluation. They indicate an average relationship to peers, reacting to questions and praises, criticism, emotional instability and social inadaptability. This means that remediation as one of the stages of evaluation was not done. Evaluation doesn’t reflect ethical consideration divided by the different interveners. Evaluation in view of the learning sanctions was supposed to give account to the acquisition of the competences and guarantee the value of official title. Njuh (2014 P7) defines remediation as any extra assistance or support given a learner in order to help his/her learning difficulties. He insisted that it is not re-teaching an entire lesson but only those particular aspects of the lesson that learners did not fully grasp. This condition in mathematics evaluation provides a consistent and faire system of measurement for performance evaluation. It permits Evaluators within pedagogic activities in CBA to keep track of what ever skills learners have so that strategy and planning can work towards ameliorating that future skills may be needed.

This also indicates that after not using the systematic observation procedure, both quantitative observation instrument (rating scale, check list, systematic observation) and qualitative observation instrument (anadocata, reports etc) were not used to evaluate pupils individual attitudes and behaviors in mathematics to better the quality of evaluation of mathematics for a better performance. In the entirety, the researcher then sees the instrument a high process and high indicator towards behavioral product evaluation of mathematics.

RECOMMENDATIONS

The researcher recommends these as conditions to which evaluation of mathematics should hold in teaching/learning within the CBA

- 1) Evaluation should be integrated in to the dynamics of the learner’s learning (a function of training)
- 2) Evaluation should rest on the professional judgement of learning (the teacher has to avoid subjectivity and to pre-avoid bias)
- 3) Evaluation should be within the context of collaboration taking into account their proper responsibility (of the different stakeholders).
- 4) Evaluation should reflect the politics within which the ministry (state) wants (they are the institutional actors that are to submit certificates)
- 5) Evaluation should reflect ethical consideration divided by the different interveners
- 6) Evaluation should be functional (justice, equity and equality) and instrumental (rigor, coherent and significant)
- 7) Evaluation have to contribute to ameliorate the quality of the spoken and written language of the learner
- 8) Evaluation in view of the learning sanctions have to give account to the acquisition of the competences and guarantee the value of official title.
- 9) Evaluators within the CBA conditions, should improve learner’s performance in Mathematics Evaluation through remediation based on evaluation feedback.

CONCLUSION

Evaluation of mathematics within CBA is a means to enable individual's capacity to reason mathematically and to formulate, employ and interpret mathematics to solve problems in a variety of real world context. It is also a means for program option and vocational aspiration for the learner. It includes concepts, procedures, facts and tools to describe, explain, demonstrate and predict phenomena. Mathematics Evaluation operationalization helps individuals know the role that mathematics play in the world and make well founded judgments and decisions needed by constructive, engaged and reflective 21st century citizens. It permits the evaluator (teacher) to mirror the learner through operational remediation (assimilation and accommodation) to improve the learner's reasoning and thereby performance. But when inadequately done, learners develop wrong (negative) cognitive strategies leading to phobia or negative attitudes and wrong carrier orientation thereby misleading the learner in his/her performance (application of mathematics activities). Within the process of evaluation, Stufflebean (1973) designed evaluation, states that evaluation should take, permit the learner's judgment to be valued in determining the indicators of describing how well, trust worthiness and how dependable the test is. But when the process is not valid as of this study, the evaluator provides wrong thinking strategies thereby making Evaluation in the primary schools in Cameroon not reflecting the politics to which the ministry wants. Operationalization not respecting any systematic method to which a fair and consistent system of measurement could have improved performance. Evaluators designed assessment doesn't allow pupils to demonstrate the achievement of their learning outcome as a result of short comings (evaluators not enabling demonstrative activities, evaluating within the 3 domains of learning, demonstrating understanding, enabling provision of real life situation, general objectives etc) within evaluation, thereby objectives are not being achieved. The non-application of pedagogic projects and non-cognitive instruments (observations, interview etc) in evaluation is an indication that follow up (pedagogic inspection, supervision and why not sanctions) is not seriously done thereby performance of the learners.

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