

# Teachers and Students Perception on Portfolio Assessment in Kenyan Secondary Schools: Towards Preparedness for Competency Based Education

Muiruri E. Nungari

*Psychology Department, College of Education, University of Nairobi, Kenya, Graduate Student*

Karen T. Odhiambo\_Ph. D

*Psychology Department, College of Education, University of Nairobi\_Kenya, Lecturer*

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## **Abstract**

The study design was based on quantitative approach while applying descriptive analysis on the Likert-scale used. The study focused on determining practice of PA, type of PA preferred, perception regarding PA use, learning, processes and grading. The results were such that one could not make a conclusive statement regarding trends and theoretical basis of what constitutes good practice of an integrated PA strategy in secondary schools in Kenya. The problems associated with the results was in regards to the processes of PA that were critical to PA effectiveness regarding PA understanding, construction as well as grading of portfolios. Thus one can argue that learning as desired is yet to be embedded in PA as applied in learning and as desired in practice, one that leads to mediation factor between what is to be learned, the learning process, learner and instruction. The result could mean a non-authentic engagement, in which learners are passive receivers other than active providers who are capable of construct knowledge. Thus, the goal for an autonomous learner, may not have led to this autonomy. The good points were that the PA tool was appreciated by both teachers and learners. Further, results showed that PA process did lead to learners revising, possibilities of learner autonomy, and that teachers did show commitment. Teachers on the other hand acknowledged that PA had an impact on their teaching and that it enhanced learner responsibility as well as self-learning. But there is hope as perception towards PA is generally accepted by both learners and teachers. The fact that there is appreciation may mean that the actors are motivated and to some extent are determined and are immersed into the PA process given time and extended training. The aspect of extended training was raised by both teachers and learners. Proposal is for more research designed to investigate issues arising related to PA processes of construction of PA and grading work. There is also need to carry out more research in relation to issues prevalent in developing country context such as gender related and context specific that takes into consideration urban-rural, public-private schools with the view to established trends and theoretical basis that define practice related to PA integration into the competency based system of education, more so in Kenyan secondary schools.

**Background:** This study is on 'perception' on 'Portfolio Assessment (PA)' practice to determine whether PA is being integrated effectively and efficiently in secondary schools in Kenya. Specifically the study sort to determine secondary school 'teachers' and 'students' perception on the use of portfolio assessment. The argument for the research is whether the teachers and students in applying portfolio assessment(PA) hold the opinion that implies that the process leads to cognitive skills of critical thinking skills and metacognitive perspectives necessary for 21<sup>st</sup> Century The task for PA as a mediator for learning is to lead to mediation between instruction, assessment and performance within a self-regulated learning process to unpack and uncover learners cognition processes of critical inquiry and metacognition. The Ministry of Education (MoE)\_Kenya is in the early stages of their performance related 'Competency Based Curriculum (CBC)' which was implemented in 2017. It is important to determine perception of the actors as it has been established that the way in which one perceives new approaches does lead to the determination of the success of its application. Lack of positive perception impedes learning as desired. It also determine one's commitment and capacity towards adapting, developing, as well as copying with what is new thus the study.

**Methodology:** The study is based on a survey research within a qualitative design. The population was secondary school learners and teacher in the same in Kenya. The sample constituted 49 schools with 260- teachers, and 341-students. Data collection instrument. survey instruments in the form of questionnaires that were designed to capture both student and teachers' perception on portfolio assessment experience. The questionnaires were organized into two sections for students and teachers to determine perception related to use, learning, processes and grading as well as preference to type and sense of feeling towards use of portfolios. The data was coded on a scale of 1-5, on the basis of agreeing or not, and Likert-scale analysed as interval

data, using the mean, with descriptive statistics used to summarize the data and scales presented as percentages.

**Results:** The researchers could not make a conclusive statement regarding trends and theoretical basis of what constitutes good practice in terms of integrated PA strategy in secondary schools in Kenya. This is because attributes which were a challenge and not received well were deemed critical. Consider problem with the processes of PA that are critical to PA effectiveness regarding understanding of PA, construction as well as grading of portfolios by both learner and teacher. However, there were good points that gave hope to adoption of PA. These were possibilities of learner autonomy, teachers showing commitment as well as PA process leading to learners revising and possibilities of learner autonomy. Teachers on the other hand acknowledged that PA had an impact on their teaching and that it enhanced learner responsibility as well as self-learning. Further research is needed to explore challenges that arise.

**Conclusion:** It can be concluded that PA as performed and mediated in secondary schools in Kenya is not efficient and effective enough to lead to acquiring 21<sup>st</sup> Century Skills that led to learners' ability to develop their cognitive skills so as to make sense of realities of world we live in. This is because skills needed for a well mediated PA strategy that links the process as applied are a challenge and lack expertise. Thus, the PA approach of learning may not lead to functional metacognitive knowledge and skills as well as self-reflection, individuals' effort and ability that is bound to maximize learning. Further research is needed for conclusive conclusion.

**Key Terms:** Portfolio Assessment, Formative Assessment, metacognition, Constructivism, cognitive skills, critical thinking

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## I. Introduction

Over the last two decades, the education system has witnessed a shift from summative, product-oriented assessment towards formative process-oriented assessment. Brown (2004) and Gillett and Hammond (2009) describe this shift in terms of the need for assessment strategies suitable for the 21<sup>st</sup> century and for strategies 'fit for purpose', whereas Boud (2000) appeals to the need for 'sustainable assessment.' According to recent literature, the way to fulfil such needs is through effective use of formative assessment. The shift desired is from traditional measurement theory approaches to assessment that embraces strategies that embrace critical thinking and metacognitive skills knowledge. The outcome of such a process is independent and democratic learners who are able to construct and reconstruct knowledge as they learn to circumstances beyond school. Thus strategies that suit this way of thinking become important. One tool that has been recognised and is favoured across board is *portfolio* as a key tool for learning and assessment, thus '*Portfolio Assessment*.' The result of the portfolio assessment mediated process should lead to learners as self-mediators who reflect upon and eventually through learner-centred approach, leads to development of their metacognition a basis for cognitive skills in the context of Education Psychology (Schat, 2014), or knowledge and thought processes regarding one's own learning leading to effective cognitive process of recall, memory and critical thinking skills. One's perception as they apply this strategy is important as perception reflects behaviours that lead to determination of one's capacity towards adapting, developing, as well as coping with what is new, that is PA strategy, the essence of this study.

The PA strategy as a tool requires a self-regulated learning process in the application of the portfolio for assessment, a process that encompasses the learner's *metacognitive knowledge*, or beliefs about the cognition and learning, and the use of this knowledge to regulate their learning behaviours thus critical thinking skills *metacognitive strategies*, specifically cognition processes and activities such as verbal, reading, writing, language acquisition and as well as memory. This is what constitutes the *thinking* behind PA. There have been a number of studies which suggest that critical thinking and metacognition, just like some other kinds of knowledge and skill can be enhanced through a well-planned education assessment for learning (AfL) practice as a strategy, thus PA. As a result of metacognition knowledge and development, the learners are expected to acquire positive beliefs about what they are learning and its learning process and to gradually develop autonomy or the readiness to take care of their own learning inside and outside school, learning that is lifelong. This is a learning engagement that is also characterized by critical thinking skills within a self-regulated learning (SRL) process.

Seen as a problem solution nexus, the shift in learning can be described as an educational solution to an observed mismatch between practices of assessment and expectations of societal demands (Luhmann 1995). The *mismatch* is in relation to the fact that learning in the previous traditional way which was teacher centred focused on examinations based on recall of facts about knowledge and not knowledge as constructed by the learner, a product of critical thinking and judgement. Tradition learning approaches regarding assessment relied

on learner receiving the answer and not coming up with their own derived response. The move towards learning that is performance based is to ensure demonstrated performance outcome that is authentic and depicting real life situation. It also seeks to establish sustainable living, the idea is for autonomous learners who are independent and liberal and not passive. Kenya government more so Ministry of Education (MoE) has realised this mismatch in its reviews. The new Kenyan curriculum, places a strong emphasis on assessing learning progress by means of portfolios. It is believed that Portfolios does represent continuous assessment of learner progress, possibilities for integrating assessment with instruction while learning. It also nurtures higher-order thinking skills and collaborative approach to assessment that enables teachers and learners to interact in the teaching, learning embodied in an assessment process. That through the utilization of portfolios in the assessment process, learners are able to develop the skills and understanding they need to learn and to continue in the world of further education and training as well as work environment. The hope is the need for learners to become experts in their professional field, while being strategic, and, able to self-regulated and to be self-reflective.

**The statement of the problem** was that, there has been a problem in the Kenyan context and other developing country context in that strategies for developing critical thinking skills metacognitive opportunities to learning are scarce as well as the urge to. Learning in developing world context does not acknowledge values of education as much, worse still the added ones' such as internalising and developing PA as a mediating tool between metacognition and acquiring 21<sup>st</sup> Century skills. This could largely be because of the fact that learning does generally does not commonly lead to real life situations or authentic learning, thus lack of motivation towards these approaches. Learning has been more for external purposes of high scores for transitioning to higher levels of learning but not for authentic lifelong experiences. Thus one can argue that learning is embedded with false beliefs or better yet false metacognitive knowledge and processes about schooling. The result is ineffective learning behaviour outcome such as self-determination and efficacy, and, ineffective learning strategies that does not lead to learner thinking about their cognition processes and activities such as verbal, reading, writing, language acquisition and as well as memory.

Because implementation of CBC in Kenya is in its initial stages, it is important to address the challenges that may arise regarding implementation of strategies such as portfolio within the CBC system. One of these is ensuring that the strategies employed and inter-relationships that arise do lead to outcomes that are in sync with the shift in thinking of competency-based learning and value put on PA strategy is put in use. How such strategies are implemented as well as their efficiency and effectiveness is important.

**The Purpose of the study:** This study was to determine teachers and student's perception on their experience in using portfolio as a learning and assessment tool, an alternative assessment strategy in the classroom.

**Objectives of the Study:** The researchers set out to determine the following:

- a) To determine teacher portfolio assessment practice in the classroom as an alternative assessment tool
- b) To determine teachers perception on integrating portfolio assessment(PA) while teaching
- c) To determine the students perception in applying portfolio assessment(PA) as a strategy while learning

## **II. Literature and Theoretical Basis of the Study**

Portfolio assessment is based on metacognition theory. Metacognition is thinking about thinking (Flavell, 1970). It is an increasingly useful mechanism today implied to enhance student learning, both for immediate outcomes and for helping students to understand their own learning processes. Metacognition is a broad concept that refers to the knowledge and thought processes regarding one's own learning regarding cognitive capacity. The issue of cognitive capacity arises as a psychological perspective, an education psychology orientation with instructional related pedagogic needs that could be ineffective. Thus the nature of cognition can hinder learning. Cognitive capacity need schema construction according to Piaget but they also need appropriate schema which intern leads to transfer of performance for future understanding of academic rubrics. In PIAGET's theory of development, children construct schema based on the interaction they experience towards understanding the world. Vygotsky, who is best known for his concept of "*Zone of Proximal Development (ZPD)*." Argues that that children should be taught in the ZPD, which occurs when they can almost perform a task, but not quite on their own without assistance, making this a facilitated process.

**Metacognition** from a theoretical perspective is cognitive skill central to other skills needed for 21<sup>st</sup> Century skills such as critical thinking. Coined by Flavell in the 1970s, it is the ability to reflect critically on learning experiences and processes to inform future progress. These processes include planning, following, and arranging thoughts. In this context, metacognitive skills become one's own *self-awareness*, learning characteristics, and

ability to *regulate* one's cognitive processes. Miller (2002) states it is a key for success in areas like verbal skills, reading, writing, language acquisition, memory, and social interaction with abilities to control and develop cognitive performance. Portfolios help students attain metacognitive knowledge and skills (Clark, 2010). Portfolio usage is effective in transforming self-regulation into a behaviour. In a portfolio evaluation process, metacognition is prompted by planning, following, and arranging (Zimmerman, 2002). Metacognition is also determined to be stimulated when portfolio evaluations are performed. Meyer, et., al. (2010) states that portfolio assessment influences the construction of basic metacognitive skills, with students placing themselves in the centre of the learning process, setting goals, choosing necessary-to-follow strategies, and reflecting on the learning process. When a student evaluate their own skills, they find opportunities to reflect on their in-class activities, knowledge, and skills (Hopfer, 1999).

Since Metacognitive processes is best negotiated with PA as an alternative assessment and learning tool, it was thought the best approach to investigate in this study. Constructivists is the pedagogic need that arises in determining how the two interacts and interconnect through teacher mediated instruction. Constructivists approach is covered below.

**Construction** is the perspective that the real world exists and man interact with it. That thinking is grounded in perceptions of physical and social experiences which can only be comprehended by the mind (Johassen, 1991). That the learner does not respond but engage, grapple, and seek to make sense of things. The learner builds an internal representation of knowledge, or, a personal interpretation of reality or authentic. Each person has a unique construct of reality (Yarusson, 1992). There is no ultimate shared reality (Jonassen, 1991). The complexus 'world or reality' is not pre-conceived but is ever changing due to the interrelationships interactions and above all emerge properties creates and is created by\_ this complexus is not guided by straight forward cause-effect-relationships but is characterised by what Moris (1977) calls 'dialogic' multiple logics, cause-effect relationships all working at the same time. To cope with this complex nature, there is need to develop a form of 'being in the world' that is always self-reflective and self-critical-because everything we know is subject to error and illusion. Thus leading to an inescapable 'paradox' that leads to a critical battle against ideas. However, this cannot be done without knowledge that is characterised by a continuous articulation of disjointed points of view of knowledge in cycle (Kagan,2011). Even then, cautiousness is needed, that of thoughtfulness, prudence, forethought, and good sense. For humans are dialogical, ambivalent, ambiguous and antagonistically, ambivalent, ambiguous and antagonistic as the world we inhabit (Morch, 1986). It is only when students are stimulated and able to generate adequate explanation of justification themselves, that is, understand the selection and application of solution steps, does this information become part of the knowledge structure.

### **III. Research Methods**

**3.1 Study Design:** This study was based on survey research applying a qualitative research method designed to reveal a target audience range of behaviour, specifically perceptions with reference to experience with 'Portfolio Assessment (PA)' strategy of learning and assessment. The location for the study was in Mbeere Sub-county, secondary schools in Kenya.

**3.2 Population:** The target population was secondary school teachers in Mbeere sub-County in Kenya and the fourth form students. Currently, there are 56 secondary schools in Mbeere Sub-County, approximately 800 teachers and 3000 fourth form students.

**3.3 Sample and Sample procedure:** The researchers applied a purposive sampling to select the secondary school for the study however. Teachers in the selected schools were included in the study. Students were randomly selected. The sample size was calculated using an online tool, surveyssystem.com at 95% confidence interval with a sample for the study determined to be 49 schools with 260-teachers, and 341-students.

**3.4 Data Collection Instrument:** The research utilised survey instruments in the form of questionnaires that were designed to capture both student and teachers' perception on portfolio assessment experience. The questionnaires were organized into two sections. The first section focused on demographic characteristics of the sampled population, the second section sought to assess both teacher and student perceptions on portfolio

**3.5 Data Collection:** To collect data, the respondents were presented with the questionnaire with Likert-type questions or statements and a continuum of possible responses, of the 5 point scale of 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree, that is 5-likert scale type. Each item was given a numerical score so that the data can be analysed quantitatively.

**3.6 Data Analysis:** The Likert-scale as coded 1-5, was analysed as interval data, i.e., the mean as a measure of central tendency. Descriptive statistics was also used to summarize the data collected into simple numerical form and each scale presented as a percentage (%). Where necessary, the Likert-style statements and their responses were independently analysed for deeper insights.

#### IV. Results

The study was to determine Portfolio Assessment (PA) of teachers and students regarding their practices and perception as an alternative tool in secondary schools in Kenya. The intent is to reflect PA as an integral part of learning towards a reflective learner process.

##### 4.1 Portfolio Assessment Practices

###### Use of Portfolio Assessment:

As to whether ‘Teacher Practice’ in ‘Classroom Assessment’ reflect an integration of ‘Portfolio Assessment’ as an Alternative Authentic’ assessment tool regarding the use of PA in the teaching?

**Table no 1 As to whether Portfolio Assessment is Used in the Teaching**

Use of Portfolio Assessment in The Teaching By The Teachers	
Attribute	Percentage %
Y[Yes]	88%
N[No]	4%
I Do Not Know	8%
	100%

###### Summary of Results on Portfolio Assessment Use

Majority do apply PA in their teaching (88%). This shows that PA is accepted, appreciated and has been internalised for use in teaching. However this does not come without challenges as will be seen in later results on processes that arise when applying PA.

###### Popular Style of Portfolio Preferred:

As to popular Style of Portfolio Assessment preferred among teacher, the following was the outcome. The outcome is based on three categories of portfolio that arose as ‘alternative assessment’ took shape. The description is given in the table below.

**Fig no 1: Portfolio Type Descriptors**

PORTFOLIO STYLE	DESCRIPTIVE DETAIL OF PORTFOLIO TYPE
1. Evaluation	Predetermined tasks as national standards designed to document progress towards standards for grades and placement
2. Product	Focuses on students best work but evidence is limited
3. Process	Uses multiple portfolios pieces to track learner development as evidence for growth _ while emphasizing process through reflections, self-evaluation and conferences with the teacher and peers

**Table no 2: Preferred Portfolio by Teachers**

Style of Portfolio Preferred	
Attribute	Percentage %
Evaluation Portfolio	36%
Process Portfolio	46%
Product Portfolio	18%
	100%

###### Summary Results of Preferred Portfolio

Most teachers, 46% preferred to use ‘Process Portfolio,’ meaning, most lecturers preferred using multiple portfolios pieces to track learner development as evidence for growth \_ while emphasizing process through reflections, self-evaluation and conferences with the teacher and peers verses student best work and predetermined tasks. This was followed with ‘Evaluation Portfolio with 36% which has to do with predetermined tasks as national standards designed to document progress towards standards for grades and placement.

**Style of Portfolio Assessment by Subject:**

As to the most frequently used *style of portfolio assessment by subject area*, the teachers responded as follows.

**Table no 4: Portfolio Style Used by Subject**

#	Style Portfolio by Subject	Evaluation %	Product%	Process%
1.	Languages	55	12	32
2.	Mathematics	40	15	45
3.	Humanities	35	56	09
4.	Sciences	23	07	70

**Summary of the Results on Portfolio Assessment by Subject:**

*Evaluation* portfolio seems to be applied in various subjects as well as *process* portfolio but not so much product portfolio that includes sciences, mathematics and languages. Humanity leaned more towards *product* portfolio. All the subject did make use of at least one of them. The preferred choice of ‘Evaluation mode’ means most teachers are more prone to predetermined tasks as national standards as a means of documenting progress towards standards for grades and placement. There is need for variation in the use of PA style, much as this depends on the nature of the discipline and the topic and theme being taught.

**4.2 Documentation of Students Progress**

As to documentation of Progress of students activities, accomplishment and achievements, the results are given below.

**Table no 5: Documentation Schedules**

Item	N					262
	Never	Rarely	Neutral	Often	Very Often	Scale Mean
Daily	0%	35%	45%	8%	12%	2.5
Weekly	0%	1%	%	52%	47%	4.9
Monthly	21%	16%	44%	15%	4%	2.9
Depends on the Subject	%	8%	%	24%	68%	4.8

**Summary Results on Documentation**

Alternative assessment based on formative assessment model on which PA is associated with, should be assessing learning on a continuous basis. Most teachers state that it depends on the subject which may mean that focus is not on the assessment per say. If the focus was on the assessment as perceived in a formative assessment, self-regulated learning approach within the epistemology of constructivist way of teaching, then one would expect more teachers rating items higher than the case in the study. This reflects the need for further training that is skill based in terms of what continuous assessment means and task related best approach PA mode of assessment and possibilities of how often the results could be documented and nature of the documentation.

**4.3 Teacher Perception**

**Teacher Perception towards Portfolio Assessment:**

As to perception of teachers towards use of portfolio assessment, the teacher’s response is given below. Teachers’ perception towards portfolio assessment was established through teachers’ opinions on the use, portfolio as a learning tool, the process of portfolio development, and grading.

**Table no 6: Perception of Teachers towards portfolio Assessment**

Items	N					262
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
<b>Use</b>						
1. can be used as an effective assessment method	%	%	3%	33%	64%	4.8
<b>As A learning Tool</b>						
2. has an impact on the students' skills	%	2%	5%	42%	51%	4.6
3. has an impact on your teaching in the class	%	1%	6%	25%	68%	4.7
4. is an interactive and dynamic process	%	8%	12%	52%	28%	4.4
5. enhances students' sense of responsibility	%	%	%	57%	43%	4.8
6. gives the students' development process clearly	%	4%	12%	61%	23	4.5
7. encourages self-learning	%	%	%	42%	58%	4.7
8. enhances collaboration among the students	1%	6%	14%	45%	34%	4.4
9. encourages student-teacher interaction	%	%	%	14%	86%	4.9
<b>Process</b>						
10. Portfolios are difficult to construct	35%	22%	3%	20%	20%	2.8
11. Carrying or storing the bulky materials presents a logistical challenge to the teachers	%	6%	18%	45%	31%	4.2
12. Training or conferences should be held about portfolio assessment	%	%	14%	64%	22%	4.6
13. Teachers should actively help students during the organization of reports	%	9%	15%	23%	53%	4.4
<b>Grading</b>						
14. Grading portfolio is easy	16%	35%	14%	25%	10	3.2
15. Teachers try to be objective while grading	%	%	21%	26	53	4.2

**Summary of the Results on Teacher Perception**

*Regarding USE:* As to whether PA can be an effective assessment tool (4.8), the teachers were of the opinion that it is true with 64% strongly agreeing and 33% agreeing. The rest 3% were neutral. The PA strategy seems to have been appreciated by most teachers.

*Regarding PA as a LEARNING TOOL:* 86% respondents do strongly agree that PA process does encourage student-teacher interaction (4.9). 68% do strongly agree that PA has an impact on one's teaching (4.7). 58% do strongly agree that PA encourages self-learning. Some of these were impact on students skills 42% (4.6), interactive and dynamic 52% (4.4), enhanced student sense of responsibility 57% (4.8), gives students development process 61% (4.5), Encourages self-learning 42%(4.7), enhances collaboration among the students 45%(4.4), carrying or storing the bulky materials presents a logistical challenge to teachers 45%(4.2). On may say that a good number of teachers do agreed on PA as a learning tool.

*Regarding PROCESS:* The significant attributes showing interesting results are difficulty in constructing PA with 35% (2.8) stating PA is difficult to construct; The need for training whereby 64% (4.6) agreed with the need for training. As to the need for teachers to actively help learners during organisation of their reports, teachers did strongly agree with 53% (4.4). There was also a challenge in storing of bulky material (4.2), whereby teachers were neutral to the tune of 18%, agreeing 45% and agreeing strongly 31%. This variation maybe as a result of the tasks given whereby not all tasks lead to bulky results.

*Regarding GRADING:* There is a mix regarding the aspect of portfolio being easy to grade (3.2), with the largest preference of 35% choosing disagree and only 10% agreeing strongly, and, as to teachers being objective while grading (4.2) 53% strongly agreed. This is a challenge. The fact that teachers response is not in harmony regarding grading is a drawback to the PA use this is despite the fact that many of the teachers do

agree that PA strategy is a good learning tool and that it does seem to lead towards integration of PA in the learning and assessment process.

#### 4.4 Student Perception

##### Student Perception towards Portfolio Assessment

The perception of student on portfolio was assessed based on its use, as a learning tool, process and grading.

**Table no 7: Student Perceptions on Portfolio Assessment**

	N					345	
Items		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Portfolio should be used as an assessment method		5%	7%	2%	25%	65%	4.5
<b>As a Learning Tool</b>							
Portfolio helps in Revisions		2%	1%	%	27%	70%	4.8
Portfolio allows us to learn by ourselves		%	10%	2%	23%	65%	4.6
Portfolio increases collaboration among students		%	%	12%	52%	46%	4.7
Show teachers commitment to my learning		3%	6%	8%	23%	60%	4.7
<b>Process</b>							
Portfolio training or seminar should be done		%	%	%	49%	51%	4.9
Difficult to Prepare		%	15%	12%	60%	13%	4.4
<b>Grading</b>							
Objective grades are given while evaluating		4	11%	25%	25%	35%	3.7

##### Summary Results of Student Perception on PA

**Regarding USE:** 65% strongly agree that PA should be used as an assessment method (4.5) with 25% agreeing and 5% strongly disagreeing. This is a good response considering that PA much as it is not new in education practice, it is a new entry in Kenya. However there is need to follow up into those who think otherwise. 5% is quite large especially when PA is becoming a key tool for assessment in CBC.

**Regarding PA as a LEARNING TOOL:** 70% strongly agree that PA helps in revision. That PA allows learning (4.6) was also highly agreed to with 65% strongly agreeing. 10% stated otherwise. Sense of teachers' commitment to the learners learning (4.7) was highly rated at 60%. In all the issues raised, students seems to have appreciated more that PA is indeed a learning tool. There was also acceptance to teachers' commitment to their learning at 60% strongly agreeing with this statement and 23% agreeing.

**Regarding PROCESS:** As to training and seminar, majority strongly agreed 100% [49% agreed; 51% strongly agreed]. That PA is difficult to prepare (4.4) with 60% of learners agreeing that it is so with a good number 15% disagreeing. This is a challenge for it is in its preparation that PA does become a success. This needs further exploration.

**Regarding GRADING:** As to possibilities of objective grades the response vary. 35% strongly agree, the rest are spread across and 4% strongly disagree. This raises a concern and expertise could be an issue. Thus the call for extra training does make sense.

#### 4.5 Students Belief on PA

As to learners belief in PA, two attributes were assessed, understanding and whether it should be used as an alternative assessment tool. The results is given below.

**Table no 8: Students Belief in PA**

Attributes	SD	D	N	A	SA
I do not understand the requirements of PA	12	17	07	18	46
Portfolio should be an Assessment Method	04	10	02	24	60

SD: Strongly Disagree

SA: Strongly Agree

D: Disagree  
N: Neutral  
A: Agree  
SA: Strongly Agree

### **Summary Results on Students Belief on PA**

Less than half the learners did allude to the fact that they understand the requirements of PA with 12% stating they do not understand the requirements. This raises a concern. This could be the reason why a good number of learners did state that there is need for further training in PA. The teachers also alluded to the fact that there was need for more training. The results could also be due to the fact that the learners did state that they had challenges with construction of PA. Thus, much as the PA process is appreciated by the majority with many more using PA in their teaching, there are challenges in ensuring its efficiency and effectiveness.

## **V. Discussion**

The study sort to determine the impact of teacher and learners perception on their experience with 'Portfolio Assessment' use and the extent to which it is integrated into the learning and if the connections results in real life 21<sup>st</sup> Century skills. The concern of the study was whether the experience from using PA is meaningful, and that it leads to the development of metacognitive processes of metacognitive knowledge, strategies, in a systematic framework of cognitive learning and learned behaviors. That if perception was positive overall on key areas of PA, then there is hope in its efficiency and effectiveness as a tool for learning and assessment in use in the classroom even as the Kenya Government through Ministry of Education (MoE) implements CBC at various levels of learning. Perception of PA was measured using the four constructs of 'use', as a 'learning tool,' a 'process,' and on 'grading.' The results show that generally 'Portfolio Assessment' strategy or tool has been highly appreciated and acknowledge more so by the learners than was expected. The assumptions of the study that were made were to the extent that PA is integrated into the process of learning and that it results in metacognitive processes through a successful self-regulated learning procedure. This cannot be categorically *claimed* as a result of the fact that processes of PA was found challenging more so in key areas of PA function of understanding PA, construction of PA, and grading. This could stand in the way of a functioning PA strategy that leads to integrated assessment tool and learning gains to wards autonomy and lifelong learning experience.

All the same, there were good things that were also quite evident as to behaviors that are desirable to the function PA. These were self-regulated learning perspective that included learner perspective that PA does help in *revision*, leads to learning by oneself or *independent* and autonomous learner, and that teachers do show *commitment* to learners and their learning. As to teachers' perspective on what would lead to a functioning PA, the teacher acknowledge that PA had an impact on one's teaching, that it enhances learner responsibility, enhances self-learning an aspect key to competency-based learning and that PA encourages interaction. Thus despite the challenges in processes of PA function, there is hope in that, the positive perception towards self-learning would mean that learners are able to self-regulate their learning.

What interrupts PA function towards use, learning, process and grading has a bearing on the product desired of cognitive processes and skills. The challenges arising entails the function of Metacognition, self-reflection, and mediation as then PA as performed may not lead to acquiring 21<sup>st</sup> Century Skills that led to learners' ability to make sense of their world realities thus making this world reality a distant dream. Thus, as a result of ineffective and inefficient PA application, cognitive competencies such as those that lead to quality learning and authentic learning may not be attained because of lack of ability to regulate and develop the required abilities more so if the challenging attributes are key to portfolio function. This was the case as there was a problem with key processes of PA such as enhancing learning, internalizing cognitive skills, self-regulation of learning as it evolves as well as self-reflection and assessment. These impede upon transfer and storage of knowledge, as well as construction of knowledge. Worse still these attributes are also key to metacognition which as we now know is a major attribute of PA that serves as a *belief system* of PA, whereby PA also serves as the *mediating factor* in developing metacognitive skills. Thus the problem is bigger as this would spell a dysfunction of cognitive processes desirable in the learning such as language, comprehension, problem solving, critical inquiry, judgment and analysis. This means that if the outcome of such a negotiated PA, SRL, metacognitive process is for independent and democratic learners who are able to construct and reconstruct knowledge as they learn to circumstances beyond school then PA application in Kenyan secondary school education within a competence education system is not effective and efficient.

The authors are of the opinion that, since this was an exploratory study on PA and its application, further research should be carried out based on the outcome of this study taking into account design issues. Thus, PA needs to be applied to other categories of learners taking into gender, urban-rural divide, public-

private school settings. Since training was a major factor, the study could guide in the areas to focus on for skill development in short courses, workshops and seminars.

The study has brought out areas of concern that may need further study such as the relationships that arise due to mediated learning and development processes as this impedes upon acquisition of cognitive skills and their performance in them. There is need to understand and apply with confidence PA to ensure success of PA and its learning products. The need of further training is paramount and should be addressed and plan put it place for an effective and efficient PA negotiated practice. Overall, there is need to review the challenges arising and to better design further studies to address the challenges that arose. There may also be need to have in-build hermeneutics research, qualitative in nature, a more in-depth approach design. Other variables may need to be explored. Consider gender and cross discipline approach.

It can be concluded that PA as performed and mediated in secondary schools in Kenya is not efficient and effective enough to lead to acquiring 21<sup>st</sup> Century Skills that led to learners' ability to develop their cognitive skills so as to make sense of realities of world we live in. This is because skills needed for a well mediated PA strategy that links the process of learning may not lead to functional metacognitive knowledge and skills as well as self-reflection, individuals' effort and ability that is bound to maximize learning. Further research is needed for conclusive conclusion.

## VI. Conclusion

Guided by the constructivists theory of knowledge in which human beings actively engage in making meaning of the world, PA mediated process need reflect the cognitive capacities of individuals that lead to real life authentic experiences. This is important as the world of education races towards determining *functional metacognitive knowledge and skills as well as self-reflection, individuals' effort and ability* that lead to acquiring 21<sup>st</sup> Century Skills individuals effort and ability to solve daily and professional life long problems. Learners' potentials, abilities as well as modalities of intellect are important to develop. Strategies such as PA are now well known mediators between what is taught, instruction, and metacognitive skills. Thus, PA becomes a tool that is student centred and provides in-depth of learning through various education processes providing different education dimensions in learning environment (Lyer,2006). Hence students need to engage in real-world authentic learning to be provided with opportunities to think for one's self and creatively construct knowledge (Ultanir, 2012). PA seems to carry all the attributes needed for today's learning environment, learner, and facilitator or the teacher and the policies of education therein. However, the fact that the authors in this study cannot make conclusive statements on PA as applied in the context of Kenyan secondary education, and the fact that there is no clear trends or theoretical perspective arising from PA practice, this becomes a challenge. It's only when strategies such as PA are effective and efficient and are understood and well administered that the learners can create pathways of learning. The requirement for more skilled training in the processes of PA in Kenya that arose as challenges in the study need to be addressed to guide training formally or informally. As stated, 'perception' is the essence of this study and that it has a lot to do with behaviour that determines whether one is adapting, developing as well as copying with what is new. It may mean that learners and teachers alike are yet to adapt and so are yet to develop or development is hampered and thus not flourishing as they should in their learning.

## References

- [1]. Apple, M., & Shimo, E. (2006). *Learners to teacher: Portfolios, please! Perceptions of portfolio assessment in EFL classrooms*. Retrieved November 26, 2006, from 2004
- [2]. Barrett, H. C., & Wilkerson, J. (2004). *Competing paradigms in portfolio approaches*. Retrieved October 3, 2006, from <http://electronicportfolios.com>
- [3]. Biggs, J.B. (2003). *Teaching for quality learning at university*. Buckingham: Open University Press/Society for Research into Higher Education. (Second edition)
- [4]. Bushman, L. & Schnitker, B. (1995). *Teacher attitudes on portfolio assessment, implementation, and practicability*. (ERIC Document Reproduction Service No. ED388661).
- [5]. Cain, M, et al., (2005). *Developing Portfolios For Integrating Teaching, Learning, And Assessment*. *School of Education, Trinidad and Tobago*. Calfee, R. & Perfumo, P. (1993). Student portfolios: Opportunities for a revolution in assessment. *Journal of Reading*, 36(7), 532-537.
- [6]. Caner, M. (2010). Student views on using portfolio assessment in EFL writing courses. *Anadolu University Journal of Social Studies*, 10(1), 223-236.
- [7]. Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: principles, policy & practice*, 5(1), 7-74.
- [8]. Black, P., & Wiliam, D. (2006). The reliability of assessments. *Assessment and learning*, 119-131.
- [9]. Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi delta kappan*, 86(1), 8-21.
- [10]. Chan, Y. (2000). The assessment of self-reflection in special education students through the use of portfolios. Bell & Howell Information and Learning Company. (UMI number 3001780)
- [11]. Clark, I. (2010). Formative assessment: There is nothing so practical as a good theory. *Australian Journal of Education*, 54(3) ..
- [12]. Coombe, C. & Barlow, L. (2004). The Reflective portfolio: Two case studies from the United Arab Emirates. *English Teaching Forum*, 42(1), 18-23.

- [13]. Cooperstein, S.E. & Kocevar-Weidinger, P. (2004) Beyond active learning: a constructivist approach to learning,. Reference Services Review, 32(2), 141–148.
- [14]. Fenwick, T. J. & Parsons, J. (1999). *Using portfolios to assess learning*. (ERIC Document Reproduction Service No. ED428398).
- [15]. Hopfer,(1999). 2.11.3 Psychological Perspective. 2.11.3.1 Behaviorism. Behaviourism as a perspective of learning focuses on changes in individual's observable.
- [16]. Jasmine, J. (1995). *Portfolio planner: A step by step guide to portfolio assessment*. Huntington Beach, CA: Teacher Created Materials, Inc.unewicz, K. (2003). Student portfolios with a purpose. *The Clearing House*, 77(2), 73-77.
- [17]. Kampfer, S. H., Horvath, L. S., & Kleinert, H. L. (2001). Teachers' perceptions of one states alternate assessment: Implications for practice and reparation. *Exceptional Children*, 67(3), 361-374.
- [18]. Krest, M. (1990). Adapting the portfolio to meet the student needs. *The English Journal*, 79(2), 29-34.
- [19]. Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., Dies, R. R., Eisman, E. J., Kubiszyn, T. W., & Reed, G. M. (2001). Psychological testing and psychological assessment: A review of evidence and issues. *American Psychologist*, 56(2), 128–165. <https://doi.org/10.1037/0003-066X.56.2.128>
- [20]. Miller, N. (2002). Alternative forms of formative and summative assessment. *The Handbook for Economics Lecturers: Assessment, Bristol: Economics LTSN*, <http://www.economicsnetwork.ac.uk/handbook>.
- [21]. Mueller, J. (2005). The authentic assessment toolbox: enhancing student learning through online faculty development. *Journal of Online Learning and Teaching*, 1(1), 1-7
- [22]. Mokhtaria, L. (2015). The Use of Portfolio as An Assessment Tool. *International Journal of Scientific & Technology Research* 4(7).
- [23]. Morris, 1986. B. Morris. Teacher perceptions of multiple dimensions of the work environment, environmental robustness, and holding power.
- [24]. Mueller, J. (2006). Portfolios. In *Authentic Assessment Toolbox*. Retrieved November 27, 2006, from <http://jonathan.mueller.faculty.noctrl.edu/toolbox/portfolios.htm>
- [25]. Pierce, L. V. & O'Malley, J. M. (1992). *Performance and portfolio assessment for language minority students*. NCBE Program Information Guide Series, 9 Retrieved October 17, 2005 from <http://www.ncela.gwu.edu>.
- [26]. Rolheiser, C., Bower, B. & Stevahn, L. (2000). *The portfolio organizer: Succeeding with portfolios in your classroom*. Alexandria: Association for Supervision, Retrieved January 15, 2005 from <http://site.ebrary.com>
- [27]. *Schart (2014)Social and emotional learning: A critical appraisal* age, 2013. ISBN 978-1-4462-5696-1 [61] Singer, S. (1993). *Portfolio assessment in foreign language, pilot project*. Evansville-Vanderburgh School Corp.,Ind. (ERIC Document Reproduction Service No. ED368197)
- [28]. Slater. T. F., Ryan, J. M. & Samson S. L. (1997). *The impact and dynamics of portfolio assessment and traditional assessment in a college physics course*. Retrieved January 18, 2005 from <http://solar.physics.montana.edu/tslater/publications/#jrst>
- [29]. Spencer, D. M. (1999). *An exploration of portfolio assessment and its influence on children's writing*. Unpublished master's thesis, Regina University – Canada
- [30]. Shepard, L. (2001). The role of classroom assessment in teaching and learning.
- [31]. SMASSE (1998). Baseline Studies Project. Nairobi: Unpublished Research Report
- [32]. Swartz, L. (1999). *An interview-observation study of the use of portfolios for instruction and assessment in the general education classroom with students with disabilities*.
- [33]. Tierney, R.J., Carter, M.A., and Desai L.E. (1991). *Portfolios assessment in the reading writing classroom*. Norwood, MA. Christopher-Gordon Publishers, Inc.
- [34]. Warlick, K., & Olsen, K., (1999). How to conduct alternate assessments: Practices in nine states University of Kentucky: Mid-South Regional Resource Center. (ERIC Document Reproduction Service No. ED 431 261
- [35]. Zimmerman (2002). Becoming a Self-Regulated Learner: An Overview. *Theory Into Practice*: Vol. 41, Becoming a Self-Regulated

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