Determination Of The Usage Of Self Assessment Strategy For Effective Learning Among Certificate Class Students In Benin City

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Abstract

The study investigated the usage of self-assessment learning strategy by both senior and junior school Certificate Class Students. Six research questions were raised and hypothesized for the study. The study employed survey research design. All senior and junior secondary school three (03) students in Benin City made up the population of the study. A sample of 400 students was used. Multistage Sampling procedure was used to select the sample. Self Assessment Learning Strategy Scale (SALSS) which was used for data collection. The instrument was validated and a reliability coefficient of .844 was obtained. The data generated from the instrument were subjected to statistical analyses. Hypotheses 1,2 and 3were tested using one sample t-test while hypotheses 4, 5 and 6 were tested using independent samples t-Test. Findings shows that all secondary school certificate class students significantly make use of self assessment learning strategy. There is no significant difference in the usage of self assessment learning strategy by sex for both senior and junior school Certificate Class Students. However, there is a significant difference between senior and junior secondary school Certificate Class Students in the usage of self assessment learning strategy. Based on the findings of the study, it was recommended that students should be encouraged to continue to utilize self-assessment learning strategy to enhance their studies..

Keywords: *Learning Strategies, Self-Assessment, Senior secondary School, Junior Secondary School & Certificate Classes*

Introduction

Learning is the responsibility of the learner. Stakeholders like teachers, parents and government create the platform for learners to learn but learning cannot be possible without the input of the learner. Thus, learning is a very personal thing. To Awanbor (1997), learning is a behaviour (thinking, feeling and action) that is induced directly by practice or relevant experience. Learning according to Leung, et al (2006) is a way that leads to self-perfection. Higher performance (academic achievement) of students at all levels of schooling is influenced by their effective learning. To Chowdhury and Pati, (1997) in Awan et al (2011) "*Academic achievement refers to particular learning in a particular setting which is defined by examination marks, teachers' given grades and percentiles in academic subjects*" (p. 73).

It is a known fact that students vary considerably in how they learn. Thompson and Mascazine (1997) in Osarumwense (2015) noted that students' learning is influenced by their preference, tendencies and the strategies they exhibit while learning and that students who accept responsibility for their own learning, discover, understand and apply strategies to complement their dominant learning styles as well as create, think and reflect about concepts. They also engage in multiple instructional and learning strategies to maximize their learning. They are therefore, more likely to become efficient in learning and make sense of new information. For effective study to take place, students have their roles to play by strategizing different plans of action in order to bring about change in the rate of understanding. Thus, Markham (2004) defined *"learning strategies as adopting a plan of action in the acquisition of knowledge, skills or attitude"* (p. 5).

Effective learning is required from all students especially those who are preparing for certificate examinations. Certificate examinations are those administered to students who have completed the syllabus of an educational programme like Upper Basic Education programme (BECE), Senior Secondary Certificate Examinations (WASSEC, NECO Examinations, and NABTEB Examinations). Certificate examinations are usually conducted for students at the terminal point of an education programme called certificate classes. The number of years of an education programme is dependent on the policy of the nation. In Nigeria, the Basic Education Certificate Examination (BECE) is administered after the first 9 years of formal education: 3 years for Lower Basic Education which was formally called Primary 1-3, 3 years for Middle Basic Education which was formally called Primary 4-6 and 3 years for Upper Basic Education which was formally called Junior Secondary 1-3 while Senior Secondary Certificate Examinations (SSCE) is administered after three (03) years of Senior Secondary School (SSS) education. These examinations cover the syllabus of the educational programme. For example, students who want to sit for SSCE/BECE are expected to cover the syllabus for SSS/BECE that is course outline for SSS1-3/ Upper Basic 1-3. So, such students are expected to reflect on everything they have been taught for the three years, monitor how well they have learnt the content of instruction, assess themselves based on all they have been exposed to. When students assess themselves based on taught curriculum, they can determine whether or not they are capable of sitting for the certificate examinations. When students assess themselves and find out that they are ill-prepared, will wake up to their responsibility

by studying effectively to achieve high in the forth coming examinations.

Assessment therefore is a tool for effective learning. Assessment according to Elliot et al (2000) in Omorogiuwa (2019) is a process of gathering information about a student's ability or behaviour for the purpose of making decisions about the student and future instruction. Watson (nd) asserted that assessment is used to understand the state or condition of learning. He noted that instructor assesses learning through both observation and measurement in an attempt to better understand students' learning in a course and that assessment could be in form of collecting evidence, both graded and non-graded responses/activities about the students' progression in the course. Effective assessment according to Watson (nd), can determine the degree to which students have met the intended learning outcomes for a course or a programme. He however noted that discussion, observation, examination, papers, reflection questions and in-class –student responses are good examples of assessment in course. Assessment is not solely the responsibility of the instructor. Students can as well assess their learning progress as it will reveal to them their strengths and weaknesses. Assessing one own self is called self-assessment. Thus, Self assessment makes students to sit up to do the needful.

Self assessment is a learning strategy an individual uses to reflect on how well he or she has benefited from the learning exercise. Students' self assessment could mean the gathering of information about the process of learning, reflecting on how well one has learnt, getting feedback about personal progress in knowledge, skills acquired by the individual, processes or attitudes towards learning (Osarumwense, 2020). Panadero et al (2016) in Yan, et al (2023) defined self-assessment as wide variety of mechanisms and techniques through which students describe and possibly assign merit or worth to the qualities of their own learning processes and products. Self-assessment according to them can be as simple as guessing a grade or can be a complicated process during which students engage in different actions such as determining standards and or criteria, seeking feedback information, reflecting on one's own performance, making and calibrating self-assessment judgement. To Ministry of Education, (2002), "*Self assessment leads a student to a greater awareness and understanding of him/herself as a learner"* (p. 3). Mcmillan and Hearn, (2008) see self assessment as the ability of students to identify the strategies that can aid their comprehension, ability to monitor and evaluate the quality of their thinking as well as the behaviour they exhibit while learning. They further stressed that self assessment occurs when students take decision about their learning effectiveness with the intent to improve performance as they discover the differences between present and desired performance. Students improve on their performance and motivated to learn more when there is improvement in the level of their understanding based on attainment of set goals, and then identify criteria to engage in, verify their own progress towards learning, reflect on their learning effectiveness, and generate different strategies for more learning (Mcmillan & Hearn, 2008).

Mcmillan and Hearn, (2008) noted that students' motivation is enhanced when they involve in self assessment by providing a sense of ownership and responsibility as that will reveal the level of their achievement from time to time. They

also added that intrinsic motivation of students is developed by helping them base their performance more on acquiring skills and competence rather than rewards for performance. Similarly, Chappins and Stiggins (2002) noted that students' self assessment has been proven to be one of the assessment types that have significantly impacted on the academic achievement of students as the students are personally involved in assessing themselves which will enable them set higher goals and work more to attain those goals.

Pintrich and Schunk (1996) were of the view that once students understand the learning goals and learning criteria, they try as much as possible to evaluate their own performance and make necessary adjustments. This stands as an opportunity for teachers to convey to students that mastery of contents or concepts is controllable and that the goal is to acquire knowledge rather than mere completion of task. Mcmillan and Hearn (2008) noted that when students duly evaluate themselves, they tend to commit more resources to study continually thereby setting higher goals for themselves in the future. They were also of the view that students benefit greatly by explaining their work and their own evaluation through reflective activities such as attending of conferences, writing correspondence with parents or peers, providing objective feedback based on self evaluation reports and identifying specific areas of their strengths or weaknesses. Below is student self-assessment cycle by (McMillan & Hearn; 2008).

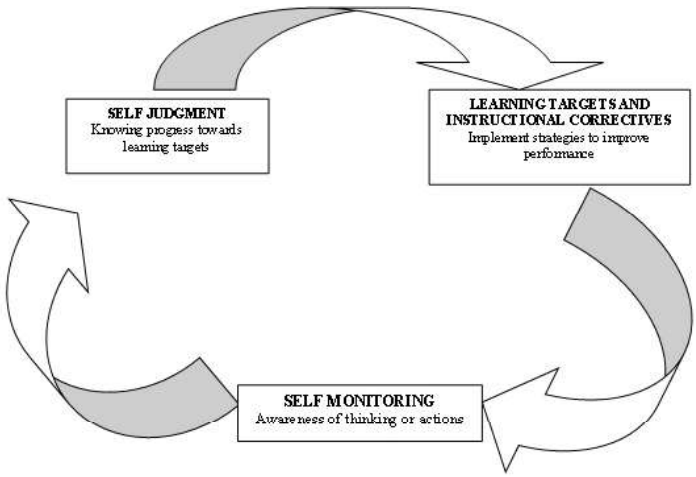

Figure 1 Student self-Assessment cycle by McMillan & Hearn, (2008)

Reflection according to Mcmillan and Hearn (2008) is an important aspect of the self evaluation process. It helps students think about what they know or have learned and also identify the areas that are not cleared to them as well as creating new goals. It also enables them to evaluate what they learned, the aspects they still need to revisit, and how to accomplish the task. All these can create deeper understanding

rather than superficial knowledge. Rolheiser, Bower and Stevahn, (2000) noted "*that reflection is an essential component of effective self assessment and that it occurs when students think about how their work meets established criteria, how they analyze the effectiveness of their efforts, and plan for improvement*" (p. 31). Mcmillan and Hearn (2008) however noted that developing reflective processes can lead to improved meta-cognition. Effective studying could be enhanced if learners can take self assessment upon themselves.

In the study carried out by Osarumwense (2020), found that secondary students significantly make use of self evaluation among other learning strategies to enhance their Mathematics learning. Ifenthaler et al (2022) found in their study that students make use of self- assessment predominantly before summative assessments and that the engagement in self-assessment was positively related to the performance of students in their final examination. Mulrooney (2019) found that one third of the students who were invited to participate in self-assessment in his pilot study chose not to do so. He perceived that they were not cleared on how to attempt it. Kaderavek et al (2004) in Andrade (2019) found that older children and good narrators were more accurate than younger children and poor narrators in self-assessment. Moreover, they found that males tended to more frequently over estimate their abilities than their female counterparts. Butler (2018) in Andrade (2019) found that older students appeared to be more conservative in their self-assessment compared to the younger ones. This according to him was as a result of the fact that children often contextualized the descriptions based on their own experiences, goals and expectations.

In the study carried out by Falchikor and Boud (1989) in Andrade (2019), they found that students in later years of their course are better able to judge their performance than in their earlier years. Yan et al (2023) asserted in their study that self-assessment accuracy increases with students' age or academic ability. McDonald and Boud (2003) in Andrade (2019) found that self-assessment has been revealed to improve students' performance in their final examination. Boud, et al (2013) noted that the issue of making judgements is often an informal and personal act that may or may not occur as students prepare themselves to be assessed by others. Haas et al (1998) in Scherpereel and Bowers (2008) in the study they conducted with 91 senior Marketing students found that there is a statistical significant mean difference in the self-ratings of male and female students. However, Scherpereel and Bowers (2008) found in their study that both male and female in university classroom appear to overestimate their own performance. Haeckl (2022) found that women tend to increase their self-assessment when it has to be made public but their actual performance remains private. He found that women are more confident when assessing upcoming task's performance. He however noted their increase in confidence does not increase the effort they put in. The report of the study on Medical students has it that Physicians and Medical students generally self-assess themselves poorly and that the inaccuracy on self-assessment differs by gender among Medical students where the females underestimate their performance compared to their male students (Madrazo, Lee, McConnell & Khamisa, 2018).

Some researchers restricted self-assessment to students grading/scoring their own examination scripts to self assess their learning process. In this case, they practically score their scripts to judge

their knowledge or skills which will focus their attention on the outcome of learning and learning products. Some addressed self-assessment as how well students monitor or reflect, on their learning experiences without necessarily grading their scripts this mode tends to focus students' attention on learning process which will eventually improve learning outcomes. Pandero et al (2013) noted that self-assessment could be in the form of self-grading/self evaluation or assessment without the grading criteria. They described self-evaluation as asking students to score their own work. They noted that this mode of self-assessment has been flawed as students tend to be inaccurate in their ratings. Assessment according to Watson (nd) could be in form of collecting graded or non-graded evidences about students' progression in the course. In this study, self-assessment was focused on students' reflecting on their learning activities and monitoring their learning progress.

Statement of the Problem

Over the years, there have been records of poor performance of students in certificate examinations. For example, Nigerian News Service (2010) in Osarumwense (2015) reported that the performance of candidates in the Nov/Dec 2010 WASSCE was unimpressive as only 20.04 % (62,295) of the 310,077 candidates that sat for the examination made credits in five subjects including Mathematics and English. He noted that in 2009, 31.96% reached the bench mark for admission into tertiary institutions and in 2008, only 23.54% did. Thus, Dr Iyi Uwadiae, the former council's head of the Nigerian National Office (NNO), described the results in recent years as "not too good". He noted that between 2008 and 2010, the results have been fluctuating within this same zone.

However, in recent years, students' performances have greatly improved compared to previous years as percentages of candidates who sat for WAEC in 2019 had 76.5% and 50.92% credit pass in 5 subjects including Mathematics and English Language in private (candidates who are out of school) and public (candidates who are in school) examinations respectively. Also, in 2020 WAEC, 74.82% and 51.16% credit pass in 5 subjects including Mathematics and English Language were obtained in private and public examinations respectively. In 2021, higher performances were recorded as 86.55% and 73.81% credit pass in 5 subjects including Mathematics and English Language were obtained respectively by private and public candidates (National Bureau of Statistics, 2019).

Dugble et al (2019) reported that the performance of students in BECE from 2008, 2009, 2010 and 2011 had 62.18%, 50.21%, 49.12% and 46.93% respectively. The performance of the students declined per year. It was specified by Dugble et al (2019) that WAEC's chief examiner's report for Mathematics for 2012 and 2015 indicated that some candidates were not able to write figures in standard form. Also, Onanuga and Saka (2018) reported the performance trend of students in BECE Ogun State. According to them, from 2011 to 2015, students had above 90% pass in Mathematics, Basic Science and Basic Technology. Also, Maliki (2017) in Onanuga and Saka (2018) confirmed high academic achievement in Mathematics in Bayelsa State. Nugba et al (2021) reported according to field survey 2019 that from 2014-2018 in Ghana, students had 71.49%, 61.17%, 62.44%, 67.50% and 70.49% respectively in BECE. Owl (2021) noted that number of candidates who passed the BECE increased by 60% between 2018 and 2021 in Sierra

Leone. As in the case of Senior Secondary Certificate Examination (WAEC), students' performance was poorer in earlier years than in recent times. It could be that students are now using effective learning strategy to improve their performance.

There are many learning strategies. Learning strategies were categorized by Osarumwense (2015) under cognitive and meta-cognitive strategies. Self assessment was one of the meta-cognitive learning strategies categorized by Osarumwense (2015). Osarumwense (2020) found in her study titled meta-cognitive learning strategy components as predictors of secondary school students' mathematics learning that, students use self-assessment evaluation learning strategy to enhance their mathematics learning. Thus, self assessment learning strategy has been proven to enhance effective learning of students. It helps them reflect on what they have learned and also identify the areas they are not well grounded for improvement as well as help them create new goals. Mcmillan and Hearn (2008) noted that when students duly evaluate themselves, they tend to commit more resources to study continually thereby setting higher goals for themselves in the future. Being that self assessment is a tool for effective learning which will in turn influences the academic achievement of students, the researchers deemed it necessary to investigate the level of usage of self assessment strategy for learning among certificate class students in Benin city.

Research Questions

The following research questions are raised to guide the study:

Do senior certificate class students utilize self assessment learning strategy for learning?

Do junior certificate class students utilize self assessment learning strategy for learning?

Do all secondary school certificate class students utilize self assessment learning strategy for learning?

Is there a difference in the usage of self assessment learning strategy by senior secondary school certificate class students based on sex?

Is there a difference in the usage of self assessment learning strategy by junior secondary school certificate class students based on sex?

Is there a difference in the usage of self assessment learning strategy by secondary school certificate class students based on educational programme?

Hypotheses

All the research questions were hypothesized for the study:

Senior certificate class students do not significantly utilize self assessment learning strategy for learning.

Junior certificate class students do not significantly utilize self assessment learning strategy for learning.

All secondary school certificate class students do not significantly utilize self assessment learning strategy for learning.

There is no significant difference in the usage of self assessment learning strategy by senior secondary school certificate class students based on sex.

There is no significant difference in the usage of self assessment learning strategy by junior secondary school certificate class students based on sex.

There is no significant difference in the usage of self assessment learning strategy by secondary school certificate class students based on educational programme.

Methods

The study employed survey research design. All senior and junior secondary school three (03) students in Benin City made up the population of the study. A sample size of 400 students was used. Multistage Sampling procedure was used to select sample. First of all, the City was stratified into three groups by Local Government Area (LGA). The City has three (03) LGAs: Oredo LGA, Egor LGA and Ikpoba Okha LGA with 14, 13 and 20 senior secondary schools respectively. Secondly, proportionate random sampling technique was used to determine the number of schools to be selected from each LGA. Twenty percent (20%) of schools were sampled from each LGA. Thus, 3, 3 and 4 schools were randomly selected from Oredo, Egor and Ikpoba Okha LGAs respectively which made it a total of 10 schools which were used in the study. Thirdly, systematic random technique was used to select the number of schools after putting all the names of schools in the LGAs in Alphabetical order. Schools in Oredo and Egor LGAs were then selected at the interval of four (04) while schools in Ikpoba Okha LGA were selected at the interval of five (05). Fourthly, 20 students were randomly selected from junior secondary and 20 students were randomly selected from senior secondary schools of the randomly selected schools which gave a total of 40 students from each school and 400 students that were used for the study. Self Assessment Learning Strategy Scale (SALSS) which was developed by Osarumwense (2015) was adapted for data collection. The instrument was validated by three experts. The reliability of the instrument was .844 which shows that the instrument was highly reliable. The instrument consisted of two sections. The first section sought demographic data such as name of school, sex, and class while the second section was based on 12 items which addressed the interest of the study. The data generated from the instrument were subjected to statistical analyses. Hypothesis 1 was tested using one sample t-test while hypotheses 2, 3 and 4 were tested using independent samples t-Test.

Results

Test of Hypotheses

Hypothesis one: Senior certificate class students do not significantly utilize self assessment learning strategy for learning.

Table 1: One Sample Statistics of the Utilization of Self Assessment Learning Strategy by Senior Certificate Class Students (Test value = 2.5)

Academic Level	Number	Mean	Std	t	df	Sig.(2tailed)
SSS	2400	3.2869	.73202	51.910	2399	.000

From Table 1, mean score of approximately 3.29 which is higher than 2.5 test value was obtained with standard deviation of approximately .73. Also, P-value of .000 which is less than .05 α- level of significance was obtained. It therefore means that Senior Certificate Class Students significantly utilize self assessment learning strategy in their studies.

Hypothesis Two: Junior certificate class students do not significantly utilize self assessment learning strategy for learning.

Table 2: One Sample Statistics of the Utilization of Self Assessment Learning Strategy by Junior School Certificate Class Students (Test value = 2.5)

Academic Level	Number	Mean	Std	t	df	Sig.(2tailed)
JSS	2400	3.4364	.67048	69.382	2399	.000

From Table 2, mean score of approximately 3.44 which is higher than 2.5 test value was obtained with standard deviation of approximately .67. Also, P-value of .000 which is less than the .05 α- level of significance was obtained. It therefore means that Junior Certificate Class Students significantly utilize self assessment learning strategy in their studies.

Hypothesis three: All secondary school certificate class students do not significantly utilize self assessment learning strategy for learning.

Table 3: One Sample Statistics of the Utilization of Self Assessment Learning Strategy by All Secondary School Certificate Class Students (Test value = 2.5)

Academic Level	Number	Mean	Std	t	df	Sig.(2tailed)
JSS & SSS	400	39.9750	4.98110	150.469	399	.000

From Table3, mean score of approximately 39.98 which is higher than 2.5 test value was obtained with standard deviation of approximately 4.98. Also, P-value of .000 which is less than the .05 α- level of significance was obtained. It therefore means that all secondary school Certificate Class Students significantly utilize self assessment learning strategy in their studies.

Hypothesis Four: There is no significant difference in the usage of self assessment learning strategy by senior secondary school certificate class students based on sex.

Table 4: Two Independent Samples t-Test of the Utilization of Self Assessment Learning Strategy by Senior Secondary School Certificate Class Students by Sex

Sex	N	Mean	Std	t	df	Sig.(2tailed)
Male	84	38.5357	5.67269			
				-1.331	160.521	.185
Female	116	39.5517	4.81003			

From Table 4, mean scores of approximately 38.54 and 39.55 were obtained with standard deviations of approximately 5.67 and 4.81 respectively. Also, P-value of .185 which is higher than the .05 α- level of significance was obtained. It therefore means that there is no significant difference in the usage of self assessment learning strategy by male and female senior secondary school Certificate Class Students.

Hypothesis Five: There is no significant difference in the usage of self assessment learning strategy by junior secondary school certificate class students based on sex.

Table 5: Two Independent Samples t-Test of the Utilization of Self Assessment Learning Strategy by Junior Secondary School Certificate Class Students by Sex

Sex	N	Mean	Std	t	df	Sig.(2tailed)
Male	88	40.7727	5.30393			
				-.137	157.635	.891
Female	112	40.8661	4.00562			

From Table 5, mean scores of approximately 40.77 and 40.87 were obtained with standard deviations of approximately 5.30 and 4.01 respectively. Also, P-value of .891 which is higher than the .05 α- level of significance was obtained. It therefore means that there is no significant difference in the usage of self assessment learning strategy by male and female junior secondary school Certificate Class Students.

Hypothesis Six: There is no significant difference in the usage of self assessment learning strategy by secondary school certificate class students based on academic level.

Table 6: Two Independent Samples t-Test of the Utilization of Self Assessment Learning Strategy by Secondary School Certificate Class Students by Academic Level

Sex	N	Mean	Std	t	df	Sig.(2tailed)
SSS	200	39.1250	5.20044	-3.459	398	.001
JSS	200	40.8250	4.60984			

From Table 6, mean scores of approximately 39.13 and 40.83 were obtained with standard deviations of approximately 5.20 and 4.61 respectively. Also, P-value of .001 which is less than the .05 α- level of significance was obtained. It therefore means that there is a significant difference in the usage of self assessment learning strategy by senior and junior secondary school Certificate Class Students.

Discussion of Findings

It was found in this study that when both Senior and Junior Certificate Class Students were addressed singly, each significantly utilize self assessment learning strategy in their studies. More so, when all secondary school Certificate Class Students were combined together, it was also found that they significantly utilize self assessment learning strategy in their studies. In recent years, students' performances have greatly improved compared to previous years as percentages of candidates who sat for WAEC in 2019-2021 hit above 70% and above 50% credit pass in 5 subjects including Mathematics and English Language for private and public candidates respectively (National Bureau of Statistics, 2019). This could be as a result of their engagement in self-assessment learning strategy. In line with the findings of this study, Osarumwense (2020) also found that among other learning strategies, secondary school students significantly make use of self evaluation to enhance their Mathematics learning. Also, Ifenthaler et al (2022) found that students make use of self- assessment. They noted that students do this predominantly before summative assessments and that the engagement in self-assessment was positively related to the

performance of students in their final examination. Contrary to the finding of this study, it was found by Mulrooney (2019) that one third of the students who were invited to participate in self-assessment (grading of one's script) in his pilot study chose not to do so. He however emphasized that it could be that they were not cleared on how to attempt it.

Findings also revealed that there is no significant difference in the usage of self assessment learning strategy by male and female Senior and Junior Secondary School Certificate Class Students. In line with the finding of this study, Scherpereel and Bowers (2008) found that both male and female in university classroom appear to overestimate their own performance which means that both equally act in the same manner. Contrary to the findings of this study, Kaderavek et al (2004) in Andrade (2019) found that males tended to more frequently over estimate their abilities than their female in self-assessment. Also, Haas, et al (1998) in Scherpereel and Bowers (2008) found a statistical significant mean difference in the self-ratings of male and female students. In the study carried out by Haeckl (2022), it was reported that women increase their self-assessment when it is made public but their actual performance remains private and that women are more confident when it comes to assessing upcoming task's performance. According to the Madrazo et al (2018), Medical students' self-assessment differs by gender as the females underestimate their performance more than the male students.

It was revealed in this study that there is a significant difference in the usage of self assessment learning strategy by senior and junior secondary school Certificate Class Students as the mean score of the Junior Class Certificate students was higher than that of Senior Certificate Class. In line with the finding of this study, Butler (2018) in Andrade (2019) found that older students appeared to be more conservative compared to the younger ones when assessing themselves. To Butler (2018) in Andrade (2019), children often base their assessment on their own experiences, goals and expectations. Also, Kaderavek et al (2004) in Andrade (2019) found that older children were more accurate than younger children in self-assessment. In the same vein, Falchikor and Boud (1989) in Andrade (2019) found that students in later years of their course are better able to judge their performance than in their earlier years. Also, Yan et al (2023) asserted in their study that self-assessment accuracy increases with students' age or academic ability. Consequently, in agreement with the findings of this study, Senior and Junior Class Certificate Students differently assess their learning.

Conclusion

It can be concluded based on the findings of this study that all secondary school certificate class students significantly make use of self assessment learning strategy. There is no significant difference in the usage of self assessment learning strategy by sex for both senior and junior school Certificate Class Students but there is a significant difference between senior and junior secondary school Certificate Class Students in the usage of self assessment learning strategy.

Recommendations

Based on the findings of this study, it was recommended that:

Students should be encouraged to continue to

utilize self-assessment learning strategy to enhance their studies.

Teachers and parents should teach students how to engage in reflective learning

Teachers and parents should encourage students to monitor their learning for effective studies.

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