

Assessing the Influence of Gender on Self-Regulated Learning and Academic Engagement Among Senior High School Students in Ghana

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ABSTRACT: *The purpose of this quantitative descriptive survey was to examine the influence of gender on self-regulated learning (SRL) on students' academic engagement (SAE) in Ghana. Stratified and systematic sampling techniques were employed to select a sample of 315 senior high school students in the Berekum Municipal in the Bono Region of Ghana for the study. The study adapted questionnaires on self-regulated learning (Chen & Lin, 2018; $\alpha=.91$), and students' engagement (Maroco et al, 2016; $\alpha=.81$) to collect data from the students. Data was analyzed descriptively (frequencies, means, and standard deviations) and inferentially (regression, MANOVA, and Hayes Process). The study revealed that students were moderately self-regulated and moderately academically engaged. Again, Male students were found to have more self-regulated learning capacities than their female counterparts but both sexes could similarly engage in their academic pursuits. It was recommended that management in the Berekum Municipality should organize educative and job oriented - academic and career guidance workshops, seminars, and programmes to help develop higher levels of academic engagement in students. Also, School authorities should intermittently organize educative programmes that will tackle the academic, social life, financial and the psychological state of the female students.*

KEYWORDS: self-regulated learning, academic engagement, gender, senior high school, Ghana.

INTRODUCTION

For decades, it has been recognised that students self-regulated learning can lead to engagements such as psychological and behavioural endeavours, engagement in learning, as well as comprehending or mastering skills and knowledge in academic work (Fredricks, Blumenfeld &

Paris, 2004; Lemay, 2017). Ruffing, Wach, Spinath, Brunken and Karbach (2015) are of the view that the absence of personalised effort and students' engagement are two of the primary worries of most parents, teachers and other stakeholders because students have not had the preference to improve their learning and performance regardless of knowledge and aptitude they possess. This was evident because their learning and academic accomplishments were dependent on factors such as self-regulated learning and engagement (Ruffing, et al, 2015). On the Influence of Self-regulation on academic engagement among students, effective approaches to improving the motivation of students should be established as they are the primary prerequisite for effective learning (Li, & Lerner, 2011). In his study, Kahu (2013) stresses that there is a connection between self-regulated learning techniques and students' academic engagement. Studies reveal that, self-regulating students are academically driven and exhibit higher learning engagement and efficiency while those students with deficiencies in self-regulated learning have low academic engagement and decrease performance (Aksan, 2009; Guryay, 2016). Based on this, Mirhosseini, Lavasani, and Hejazi (2018) asserted that such self-regulation competencies help students to choose effective learning strategies for their needs and to use them in their academic engagements. Students, therefore, need to know how to learn and practice self-regulation.

A few studies explicitly covering gender differences have been identified in self-regulating learning. Although the studies consistently reveal certain differences between men and women, the trend in the results remains inconclusive (Bidjerano, 2005; Lietaert, Roorda, Laevers, Verschueren, & De Fraine (2015). One of the more robust research findings is that boys are generally less academically engaged and less successful at school and have higher dropout rates than girls (Lamote, Speybroeck, Van Den Noortgate & Van Damme, 2013; Van de Gaer, Pustjens, Van Damme, & De Munter, 2006; Wang & Eccles, 2012). In grades 7–9, for example, girls recorded greater engagement with 3,400 students in 12 countries than boys (Lam et al., 2012). For 1,132 grade 9-12 students in the U.S., Cooper (2014) found the same results. Lamote et al. (2013), for example, have taken a sample of 4,063 secondary school students and found that boys are likely to be part of the low engagement or the highly and decreasingly engaged group more than girls. This highlights the more detrimental roles of boys in secondary education. Consequently, the gender differences in the academic engagement of high school students continue to be important to be looked at.

However, a similar study conducted by Temi (2005) and Stanikzai (2019) on gender differences for most university students on self-regulated learning and their academic engagement revealed that there was no significant difference between male and female university students in terms of self-regulated learning.

Education in Ghana like many other sub-Saharan African countries have undergone many reforms and research studies in the educational terrain especially in Ghana are skewed to areas that exclude the combination of self-regulation and academic engagement. Ghana Education Service has been in operation since independence in 1957 and its students are trained to write examination at the end of each programme and perform creditably before they can progress from one level to another. Ensuring students' success in examination is a shared responsibility among stakeholders of education but much depends on the individual learners. This implies that the

individual student needs to be motivated both intrinsically and extrinsically to develop self-regulating competencies to study on their own in order to position themselves well for excellent academic engagements.

Students' academic performance in the Berekum Municipality of Ghana has been inconsistent from 2014-2018. For instance, grand performance for the municipality in 2015 was 49.90% and this dropped to 22.58% in 2016 (Municipal Education Performance Data, 2019). Though this trend is not exhaustible in itself, the preliminary investigations made with some key stakeholders of education in the Municipality revealed that the poor performance of the students is likely to be the results of inadequate motivation and self-regulation to study, boredom, and disengagement among students.

However, from the researchers' investigations, it appears there is little local empirical study conducted on self-regulated learning abilities of students and how students become engaged academically as most of the previous studies tend to focus on the developed countries other than developing countries like Ghana. This therefore, brings about the existence of a knowledge gap in the literature. Therefore, the current study focuses on broadening the comprehension of self-regulated learning and students' engagement among Senior High School students in the Berekum Municipality.

Objectives of the Study

Specifically, the study addressed the following objectives:

1. Assess the levels of self-regulated learning among SHS students in the Berekum Municipality.
2. Assess the levels of academic engagement among SHS students in the Berekum municipality
3. Ascertain gender differences in self-regulation and academic engagement among students in the Berekum Municipality.

Research Questions

1. What is the level of self-regulated learning among SHS students in the Berekum Municipality?
2. What is the level of academic engagement among SHS students in the Berekum Municipality?

Research Hypothesis

1. **H₀₁:** There is no statistically significant gender difference in self-regulation and academic engagement among students in the Berekum Municipality.

METHODOLOGY

This section is categorised into areas such as research design, population, sample and sampling techniques, instrumentation and procedure for data collection and data analysis.

Research Design

The study adopted the descriptive survey design because of its high degree of representativeness and the ease with which opinions can be obtained from participants. The purpose for the use of the descriptive research design was that it is suitable for either a quantitative or qualitative research which involves the formulation of hypotheses or research questions to be tested in order to describe a perplexing situation (Amedahe, 2004; Creswell, 2018).

Population

The second-year students of public Senior High School in the Berekum Municipality formed the population for this study. This group met the inclusion criteria for the study because they were the only group that might not be facing transitional challenges in terms of preparing to complete or trying to adjust to new environmental situations, which may affect their self-regulation and engagement in school.

Sample and Sampling Techniques

Three hundred and fifteen second-year students were selected from three public senior high schools in Berekum Municipality (Methodist Senior High/Technical School, Berekum Presbyterian Senior High School, and Berekum Senior High School formed the sample size for the study. Convenience sampling technique aided the researchers to select the schools. Stratified sampling procedure was used to divide the population into various groups, known as strata to ensure fair representation of sex while systematic sampling was used to randomly select the respondents but with a normal interval. This interval was determined by dividing the population size by the sample size you want. As an offshoot of random sampling, it was used because each participant needed to be given an equal chance to partake in the study. With this, the probability was based on the Kth term of 8.

Table 1: Sample size based on Schools, Tracks and Gender (n=315)

Schools	S-Sample	GN-Sample	GD-Sample	B-Sample	G-Sample
Methodist	102	48	54	51	51
Berekum	110	51	59	68	42
Presby	103	52	51	57	46

Source: Berekum Municipality Education Service Data (2018/2019) *S=selected sample, GN=Green Truck, GD=Gold Truck, B=Boys, G-Girls.

Data Collection Instrument

The instrument for data collection was adapted questionnaires on self-regulation, and academic engagement.

Self-Regulation

The Short Self-Regulation Questionnaire (SSRQ, .91) with 22-items developed by **Chen, and Lin (2018)**. The scale had five (5) dimensions such as goal attainment (7-items, .88), mindfulness (7-items, .86), adjustment (3-items, .84), proactiveness (3-items, .80) and goal setting (2-items, .82). The scale is scored based on agreement and disagreement where Strongly Disagreed (SD)=1, Disagreed (A)=2, Undecided (U)=3, Agreed (A)=4 and Strongly Agreed (SA)=5. With

the adaptation, the researchers reduced the scale to four-point Likert type, making the scoring look as Strongly Disagreed (SD)=1, Disagreed (A)=2, Agreed (A)=3 and Strongly Agreed (SA)=4.

Students Engagement

The University Student Engagement Inventory (USEI, .81) by Maroco et al. (2016) with 15-items was used. The scale had three (3) dimensions such as Emotional Engagement (5-items, .88), Cognitive Engagement (5-items, .82) and Behavioural Engagement (5-items, .74). The scale is scored based on agreement and disagreement where Strongly Disagreed (SD)=1, Disagreed (A)=2, Not Sure (U)=3, Agreed (A)=4 and Strongly Agreed (SA)=5. With the adaptation, the researcher reduced the scale to four-point Likert type, making the scoring look as Strongly Disagreed (SD)=1, Disagreed (A)=2, Agreed (A)=3 and Strongly Agreed (SA)=4.

Pilot Testing of Instruments

Wilkinson and Birmingham (2003) assert that it is common to construct a questionnaire with ambiguous layouts and mistakes in items. Similarly, Awanta and Asiedu-Addo (2008) caution that, it is possible to design a questionnaire that is reliable but invalid, due to inconsistencies in responses and failure to measure exactly what the scales are intended to measure. As a result, the instrument in this study was pilot tested to minimize mistakes and errors and to increase reliability and validity. Piloting research instruments is a procedure in which a researcher tries the instruments on a small number of individuals and makes necessary changes to improve the instruments, based on feedback from those involved in the trial (Creswell, 2012).

The instrument was piloted in the Berekum West of the Bono region of Ghana. Berekum West was chosen for the pilot study because the selected population for the work has comparable characteristics as those in Berekum Municipality. Also, the school environment in terms of infrastructure, teaching and learning materials were similar to those selected for the main study. Three hundred (300) students were used for the pilot test. The pilot test helped to assess the strengths and/ or weaknesses of the research instruments. Also, it enabled the researcher to modify and change some of the statements that looked inappropriate and difficult to understand. This helped to reduce ambiguity and misinterpretation. According to Awanta and Asiedu-Addo (2008), piloting a test enables the researcher to modify items that are difficult to understand, ambiguous and incorporate new categories that could be relevant to the study. Two days were used to distribute the questionnaire to the students. A student used a maximum of ten (10) minutes to complete the questionnaire.

Reliability of the Instruments

The internal consistency of the questionnaire was calculated using Cronbach's Alpha statistics. For most social science research, according to Hair, Black, Bobin and Anderson (2010) the Cronbach alpha coefficient of a scale should be 0.7 or above. In the current study, the Cronbach alpha coefficient was 0.75. This indicate that the research instruments have high reliability.

Validity of Instruments

The questionnaire was provided to my superiors for expert review in order to improve the study's validity. This was done to ensure that the items had both face and content related evidence, as well as to see if the items were relevant to the research questions and covered all of the study's features. The study's content validity was ensured by clearly stating the study's objectives (Fraenkel & Wallen, 2013).

Data Collection Procedures

Permission was sought from the heads and form masters of the Senior High Schools of the respondents. We established rapport with the students in order to win their confidence to accept and complete the questionnaires. The purpose of the study, issues regarding their confidentiality and anonymity, and how the questionnaire should be answered were made known to the selected students. Questionnaires were administered to the respondents and were given four days to complete them. This was to give them enough space and time to complete the questionnaires to avoid putting pressure on them considering their busy schedule.

Data Processing and Analysis

The research questions' data and hypothesis data were analyzed quantitatively. Specifically, data from research questions one and two were analyzed using frequencies, means and standard deviations while the research hypothesis' data was tested using One-Way MANOVA because the objective was to find the differences between males and females' self-Regulation and their academic engagement.

RESULTS AND DISCUSSION

Results of the study are presented according to the research questions and research Hypothesis.

Research Question One: *What is the level of self-regulated learning among SHS students in the Berekum Municipality?*

The question sought to find out the level of self-regulated learning among Senior High School students in the Berekum Municipality. In answering the research question, twenty-two (22) items under the self-regulated learning scale were used and scored using agreement and disagreement dimensions but determination of level was based on low (22-44), moderate (45-66) and high (67-88) against average mean of 65.40. In this sense, observed mean similar to determination range becomes the description of students self-regulated level in the study. Table 2 presents the results:

Table 2- Results for Self-Regulated Level of Students

Score Range	Criterion Mean=65.40	Interpretation
22-44		Low
45-66		Moderate
67-88		High

Source: Field Survey (2020)

Table 2 showed results on competency level based on score range. Looking at the outcome, it can be deduced that self-regulated levels among students were moderate as the established mean score was between moderate score range of 45-66. This means that Senior High School students were moderately self-regulated in their academic pursuits in the Berekum Municipality.

Research Question Two: *What is the level of academic engagement among SHS students in the Berekum Municipality?*

The question sought to find out the level of engagement among Senior High School students in the Berekum Municipality. In answering the research question, fifteen (15) items under the academic engagement scale were used and scored using agreement and disagreement dimensions but determination of level was based on low (15-30), moderate (31-45) and high (46-60) against average mean of 47.55. In this sense, observed mean similar to determination range becomes the description of students self-regulated level in the study. Table 3 presents the results:

Table 3-Results of Academic Engagement Level of Students

Criterion Mean=47.55

Score Range	Interpretation
15-30	Low
31-45	Moderate
46-60	High

Source: Field Survey (2020)

Table 3 showed results on levels of academic engagement of students based on score range. It could be deduced that engagement levels among students were moderate as the established mean score was between moderate score range of 31-45. This means that Senior High School students were moderately engaged in their academic pursuits in the Berekum Municipality.

Research Hypothesis 1: *There will be no statistically significant gender difference in the (a) self-regulated learning and (b) students' engagement in the Berekum Municipality*

One of the objectives of the study was to determine the differences in gender with respect to self-regulated learning and students' engagement. Based on the variable combination, MANOVA was appropriate for the analysis because the dependent variables were of two levels against gender (male and female). Before running the MANOVA test, homogeneity of variance or covariance assumption was met using the Box's M Sig. value of .340, which was greater than .05. Again, Levene's Test was checked for violation of equality of variance for both self-regulated learning and students' engagement. The results showed that none of the variables violated the equality of variance assumptions as self-regulated learning produced a sig. value of .221, which was greater than .05 while students' engagement produced a sig. value of .129, which was also greater than .05. Table 4 presents the results on the descriptive statistics:

Table 4- Descriptive Statistics

Variable	Gender	Mean	SD	N
Self-Regulated Learning	Male	66.80	7.74	140
	Female	64.22	8.39	165
	Total	65.40	8.19	305
Engagement	Male	48.15	6.42	140
	Female	47.04	7.23	165
	Total	47.55	6.89	305

Source: Field Data (2020)

Table 4 showed that descriptive results of the study variables indicated that there were differences in some mean scores of the gender of students in terms of self-regulated learning and engagement. The results suggested that male respondents ($M= 66.80$, $SD = 7.74$) were different from female respondents ($M=64.22$, $SD= 8.39$) at .05 level of significance in terms of self-regulated learning. In terms of engagement, the results suggested that male respondents ($M= 48.15$, $SD = 6.42$) engage more than female respondents ($M=47.04$, $SD= 7.23$) at .05 level of significance. It implied that descriptively, male students were higher in self-regulated learning and academic engagement than female students. But then, the descriptive results were not enough to prove differences in mean scores of the respondents, hence the need to examine the MANOVA Multivariate Tests.

Table 5-Multivariate Tests

Effect		ValueF	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	11309.876 ^b	2.000	302.000	.000	.987
	Wilks' Lambda	.013876 ^b	2.000	302.000	.000	.987
	Hotelling's Trace	74.900	2.000	302.000	.000	.987
	Roy's Root	74.900	2.000	302.000	.000	.987
Gender	Pillai's Trace	.0253841 ^b	2.000	302.000	.023	.025
	Wilks' Lambda	.9753841 ^b	2.000	302.000	.023	.025
	Hotelling's Trace	.0253841 ^b	2.000	302.000	.023	.025
	Roy's Root	.025	2.000	302.000	.023	.025

Source: Field Data (2020)

Table 5 presents the results of the multivariate test (MANOVA) which checked for statistical differences between male and female students in terms of self-regulated learning and engagement. The table showed that differences existed between male and female students as the Wilks' Lambda results showed statistically significant differences in gender, $F(2, 302) = 3.41$, $p = .023$; Wilks' Lambda = .98, partial eta squared = .025. Based on the statistically significant difference detected, there was the need to find out which dependent variable contributed to that difference using the Tests of Between-Subjects Effects. Table 6 presents the results:

Table 6: Tests of Between-Subjects Effects

Source	DV	Type Sum Squares	III of df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	SRL	504.851 ^a	1	504.851	7.698	.006	.025	
	Eng.	92.909 ^b	1	92.909	1.970	.161	.006	
Intercept	SRL	1300095.566	1	1300095.566	19824.77	.000	.985	
	Eng.	686304.608	1	686304.608	14553.63	.000	.980	
Gender	SRL	504.851	1	504.851	7.698	.006	.025	
	Eng.	92.909	1	92.909	1.970	.161	.006	
Error	SRL	19870.545	303	65.579				
	Eng.	14288.553	303	47.157				
Total	SRL	1325040.000	305					
	Eng.	704011.000	305					
Corrected Total	SRL	20375.397	304					
	Eng.	14381.462	304					

Source: Field Data (2020)

Table 6 showed the results of the Tests of Between-Subjects Effects to substantiate the differences observed in the multivariate analysis. Before going further to report, it was important

for protocols to be followed in order to avoid statistical errors in terms of Type I Error (getting a difference where indeed there is none). In controlling for Type I Error, Tabachnick and Fidell (2013, p. 272) simple formula ($.05/4=.0125$) was considered to arrive at a new alpha level of .0125 purposely for establishing a genuine difference between male and female students. After that, the results for the dependent variables were separately considered using the new alpha level of .0125. Careful examination showed statistical differences in self-regulated learning, $F(1, 303) = 7.70$, $p = .006$, partial eta squared = .025). With this, the effect size established was small according to Cohen (1988, p. 284-287) suggestion.

Based on the findings, the null hypothesis for self-regulated learning was rejected because differences were observed while the null hypothesis for students' engagement was accepted because differences were not observed. Deducing from the findings, it was revealed that male students significantly differed from female students in terms of self-regulated learning but same was not reported for students' engagement. In this sense, male students exhibited self-regulated learning abilities than female students in the Berekum Municipality but academic engagement was virtually the same for both male and female students.

DISCUSSION

Research Question One

The focus of this question was about the level of self-regulated learning abilities among students. The study revealed that students were moderately self-regulated in their academic pursuits in the Berekum Municipality. With such revelation, it is assumed that students are capable of controlling the learning process positively and are likely to exhibit academic prowess in their chosen subject areas. It is possible also that students are likely to own their thoughts in the process of learning as they may become self-disciplined and capable of withstanding difficult academic situations. The findings of the current study support Proctor et al. (2006) study findings that indicated that moderate to high levels of self-regulated learning abilities are good as they could lead students to perform better in school. Their study revealed that students with low GPAs had lower SRLs than high GPAs, who had higher SRL rates using their Learning and Research approaches inventory. The current study findings further confirmed that of Magi, Mannamaa and Kikas (2016). Their study found that the SRL skills were increased among the students and this helped in their academic discourse.

Research Question Two

The question aimed at finding out the level of academic engagement among students. The study revealed that students were moderately engaged in their academic pursuits in the Berekum Municipality. The findings, presumably, is understood that students become engaged in academic situations in school. They moderately get themselves involved in the learning process and this is resounding as they stood the chance to learn better and pass better as well. The study revelation is backed by the assertions of Fredricks, Blumenfeld and Paris (2004), where students with higher academic engagement are more likely to achieve higher credentials and have a better outcome on standardized tests. The current study finding debunked those of Marks (2000), National Research Council (2003) and Yazzie-Mintz (2007), which found that academic engagement

among students in the high-schools and middle-schools is shown to decline, reaching their lowest high-school levels as they progress academically. These studies further indicated that academic engagement becomes reduced more among students who find themselves in low-performing and high-poverty schools. However, this was not the case among the respondents as these students came from diverse backgrounds, yet their engagement levels were appreciable.

Research Hypothesis one

The hypothesis aimed to test if male students and female students could differ in terms of regulating their learning and becoming engaged in their academic programmes. The study revealed that students differed only in their self-regulated learning ability; where male students exhibited self-regulated learning abilities than their female counterparts. The findings mean that male students are likely to regulate their learning situation than their female counterparts but both sexes could similarly engage in their academic pursuits in the Berekum Municipality. This finding debunks those of Stanikzai (2019) and Temi (2005) whose studies on gender difference among students revealed that there was no significant difference between male and female students with respect to the use of self-regulated learning strategies.

CONCLUSIONS

Based on the findings, the following conclusions were drawn: Senior High School students in the Berekum Municipality are moderately self-regulated in their learning activities. This could be related to students following guidance or rules and regulations that are established for most schools in the Municipality. With such behaviours, students stand the chance to benefit as they could manage their learning activities and choose the best learning approach which could help them to achieve reasons why they attend school. Students in the Berekum Municipality are moderately academically engaged in their learning activities. This could be associated to the fact that students already know why they are in school, hence their quest to involve themselves in most academic activities. Exhibiting such engagement behaviours by students could spur them to academic success because they are involved in anything important to them and relates to their academic and life journeys.

Senior High School students in the Berekum Municipality self-regulated learning abilities influence their academic engagement positively. This could happen because the school system in the Municipality has a standard of academic behaviours among students and such could self-regulate learning. As students become regulated personally, they show ownership of their learning situations and adequately engage in the learning process.

Male Senior High School students in the Berekum Municipality exhibited self-regulated learning abilities more than female students. Most probably, male students are able to impede their instincts, stifle their desires, counter attractions with school rules, accept hard activities, reduce undesirable and intrusive opinions, and control their expressive demonstrations in the midst of others things as compared to female students.

Senior High School students in the Berekum Municipality self-regulated learning abilities and their academic engagement was intervened by open-minded type of personality trait negatively.

With this, if students are helped to become curious could lead to low self-regulated learning abilities and consequently reduce their academic engagement in school.

Recommendations

Based on the conclusion, the following recommendations are proposed:

- 1.** Management of Senior High schools in the Berekum Municipality should put in place guidance and counselling services and programmes for students which will monitor their study habits and learning processes. This will also make students more individualised to take responsibility for their learning situations. This will also enable students to become independent in their lives in later life as they might have matured in self-regulated abilities that could push them to pursue higher academic exploits.
- 2.** Senior High Schools management in the Berekum Municipality should organise educative and job-oriented - academic and career guidance workshops, seminars and programmes to help develop higher levels of academic engagement in students. When students are consistently nurtured through such activities of the school, they could transfer behavioural potencies in their academic-life into higher productivity in any occupation they may find themselves.
- 3.** Stakeholders such as the PTA of Senior High schools in the Berekum Municipality should exhibit keen interest in the activities of students. Parents intermittently checking up on wards in their schools, communicating with teachers on their wards academic performance, attendance of school events and organised meetings and also personally encouraging and monitoring their wards to study both in the school and at home could ensure self-regulated learning abilities among students. This could also propel students to continually engage in their academic activities.
- 4.** To help females self-regulate their academic abilities, Senior High Schools in the Berekum Municipality should pay attention to the female-child education. School authorities should intermittently organised educative programmes that will tackle the academics, social life, financial and the psychological state of the female students. Stakeholders within the municipality should strive for financial scholarships from NGOs and governmental organisations for female students. This in a way will motivate and also ease female students to develop the ability to self-regulate in their academic abilities in the Berekum Municipality.

References

- Amedahe, F. K. (2002). Fundamentals of educational research methods. *Mimeograph, UCC, Cape Coast.*
- Aksan, N. (2009). A descriptive study: epistemological beliefs and self-regulated learning. *Procedia Social and Behavioural Sciences, 1*, 896-901.
- Awanta, E. K., & Asiedu-Addo, S. K. (2008). *Essential Statistical Techniques in Research, for Universities, Colleges and Research Institutions.* Published by Salt “N” Light Publishers: Accra, Ghana.
- Bidjerano, T. (2005). Gender differences in self-regulated learning. *Online Submission.*
- Chen, Y. H., & Lin, Y. J. (2018). Validation of the short self-regulation questionnaire for Taiwanese college students (TSSRQ). *Frontiers in Psychology, 9*, 259. doi: 10.3389/fpsyg.2018.00259.s

- Cohen, L., Manion, L., & Morrison, K. (2012). *Research methods in education* (5th ed.). London: Routledge Palmer.
- Cooper, K. S. (2014). Eliciting engagement in the high school classroom A mixed-methods examination of teaching practices. *American Educational Research Journal*, 51(2), 363-402. doi:10.3102/0002831213507973.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Creswell, J. W., & Hirose, M. (2019). Mixed methods and survey research in family medicine and community health. *Family Medicine and Community Health*, 7(2), e000086.
- Fredricks, J.A., Blumerfeld, P., Friedel, J., & Paris, A. (2005). *Student engagement*. New York: Springer.
- Ghana Statistical Service. (2018). *2010 Population and Housing Census summary report of final results*. Accra Ghana: Sakao Press Limited.
- Gürüyay, B. (2016). The Relationship between Learning Modalities and Perceived Self-regulation Levels. *Procedia-Social and Behavioral Sciences*, 232, 389-395.
- Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate data analysis*. Eaglewood Cliffs, NJ: Prentice Hall.
- Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, 38(5), 758-773.
- Lamote, C., Speybroeck, S., Van Den Noortgate, W., & Van Damme, J. (2013). Different pathways towards dropout: The role of engagement in early school leaving. *Oxford Review of Education*, 39(6), 739-760.
- Lemay, J. O. (2017). *Students' engagement, motivation, self-regulated learning, and achievement of Georgia Southern University Sophomore Students*. *Electronic Theses and Dissertations*. 1666. <https://digitalcommons.georgiasouthern.edu/etd/1666>
- Li, Y., & Lerner, R. M. (2011). Trajectories of school engagement during adolescence: Implications for grades, depression, delinquency, and substance use. *Developmental Psychology*, 47, 233-247. doi:10.1037/a0021307
- Mägi, K., Männamaa, M., & Kikas, E. (2016). Profiles of self-regulation in elementary grades: Relations to math and reading skills. *Learning and Individual Differences*, 51, 37-48.
- Maroco, A.L., Campos, J. A. D.B., & Fregricks, J.A. (2016) University student's engagement: development of the University Student Engagement Inventory (USEI). *Psicologia: Reflexão e Crítica* 29:21 DOI 10.1186/s41155-016-0042-8
- Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American educational research journal*, 37(1), 153-184.
- Mirhosseini, F. S., Lavasani, M. G., & Hejazi, E. (2018). The effectiveness of self-regulation learning skills on motivational and academic variables among students. *World Family Medicine*, 16(5), 68-75.
- National Research Council. (2003). *Engaging schools: Fostering high school student' motivation to learn*. National Academies Press.
- Osuola, O. I. C. (2002). Cross-cultural leadership style: A comparative study of US and Nigeria financial institutions. *J. Int. Bus. Res*, 1, 83-107.

- Proctor, B. E., Prevatt, F. F., Adams, K. S., Reaser, A., & Petscher, Y. (2006). Study skills profiles of normal-achieving and academically-struggling college students. *Journal of College Student Development*, 47(1), 37-51.
- Ruffing, S., Wach, F.-S., Spinath, F. M., Brunken, R., & Karbach, J. (2015). Learning strategies and general cognitive ability as predictors of gender- specific academic achievement. *Frontiers in Psychology*, 6, 1238.
- Stanikzai, M. I. (2019). Self-Regulated Learning: An exploratory study (level and gender difference). *International Journal of Multidisciplinary*, 4(3), 57-62.
- Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics: International edition. *Pearson*2012.
- Temi, B. (2005). *Gender differences in self-regulated learning. Paper presented at the 36th /2005 Annual Meeting of the North-eastern Educational Research Association*, Kerhonkson, NY, ERIC.
- Van de gaer, E., Pustjens, H., Van Damme, J., & De Munter, A. (2006). The gender gap in language achievement: The role of school-related attitudes of class groups. *Sex Roles*, 55(5), 397-408. doi:10.1007/s11199-006-9092-1.
- Wang, M. T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development*, 83(3), 877-895. doi:10.1111/j.1467-8624.2012.01745x
- Wilkinson, D., & Birmingham, P. (2003). *Using research instruments: A guide for researchers*. Psychology Press.
- Yazzie-Mintz, E. (2007). *Voices of students on Engagement: A report on the 2006 high school survey of students' engagement*. Indiana University: Centre for Evaluation and Education Polic

