

ENHANCING MATHEMATICS PRE-SERVICE TEACHERS' ACADEMIC SELF-EFFICACY THROUGH GUIDANCE AND COUNSELLING SERVICES

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Abstract

The study investigated enhancing mathematics pre-service teachers' academic self – efficacy through guidance and counselling services in tertiary institutions in Imo state. One research question and two hypotheses were formulated to guide the study. Descriptive survey research design was used. 30 guidance and counseling teacher educators made up the sample for the study. Simple random sampling was used in selecting the sample, with a 25-item self-made instrument to collect the data. Data was analyzed using mean, standard deviation and t-test. The findings revealed that school guidance and counseling services promote self-efficacy among mathematics pre-service teachers in tertiary institutions irrespective of gender and academic qualification of guidance educators. It was recommended that there is need for schools to avail guidance and counselling services to all students who need such services in order to promote self-efficacy in students.

Keywords: Mathematics, Academic Self – Efficacy and Guidance/ Counseling Services

Introduction

Mathematics is compulsory subject offered in primary, secondary and tertiary institutions of learning. According to Isineyi in Unamba, Ugochukwu & Ewunonu (2017) as a science, which deals with the meaning of numbers and their relationship to space? Nwoke & Nnaji (2011) shared the view that mathematics is indispensable because it has application in all other human activities including school science and technology-based subjects. It has become the central intellectual discipline of the technological society. As such mathematics is one of the most important subjects Nigeria needs in this present era of technological advancement and in the realization of Nigerian vision of the year 2010 (Nwoke & Nnaji 2011).

In spite of its importance and contributions in development and efforts made to improve the teaching and learning of mathematics in schools, students encounter a myriad of learning hindrances that may negatively affect their education by distracting them from studying or may enhance performance by inspiring students to resolve the challenges as they arise. Intellectual deficiencies, difficulties understanding the taught concepts, poverty, abuse and neglect are some of the hindrances that may negatively affect students' ability to execute their studies to expected levels. The works of Solberg Solberg, Carlstrom, Howard & Jones (2007) and McKechnie (2012) found that numerous stressors such as higher crime rates, unemployment strain of parents, financial privation, violence, drug and alcohol abuse cause personal psychological distress to students affecting their performances in school especially mathematics. Usually, when students find themselves in difficult situations, they tend to be engrossed in their personal insufficiencies and on the obstacles, they encounter instead of concentrating on their learning so that they successfully perform. Some of them easily give up when they face challenges and may not recuperate their sense of efficacy. Researchers like Sherman and Wither (2003), Jackson and Lettingwell (2020) and (2009), Yuksel-Sahani (2008) has shown that all these psychological factors affect students' self-efficacy thereby causing their learning hindrances.

Self-efficacy is one of the important concepts that are based on the theoretical framework of social cognition Bandura (1988). Self-efficacy, which is defined as the conviction of an individual to meet the expected behavior in achieving the goal successfully. This concept is usually also known as "the perception of self-efficacy", self-efficacy beliefs or considerations of self-efficacy (Emmer & Hickman, 1991; Pajares, 1996; Wolfolk-Hoy and Hoy, 1998; Saracalolu and Yenice 2009). Self-efficacy describes thoughts about the ability of the individual and the positive or negative assessment of him. In other words, compared to the function of individual skills, self-efficacy is the result of an individual assessment of performance using the skills they have.

According to Bandura (1988), self-efficacy means the belief is in one's ability to deal with different situations and performance certain tasks required producing a given achievement and confidence depends on the individual's beliefs about ability. This belief is also necessary to regulate certain behaviors and realize the behavior to achieve certain goals. Self-efficacy refers to student's beliefs in their ability to master new skills and tasks, often in a specific academic domain (Pajares and Miller in Nasiriyani, Azar, Noruzy, Dalvand, 2011). In other words, perceived self-efficacy is concerned with people beliefs in their capabilities to produce given attainments (Bandura, 1997, cited by Bandura, 2006). Self-efficacy is explained in the theoretical framework of social cognitive theory by Bandura (1986, 1997, cited by Mahyuddin, Elias, Loh, Muhamad, Noordin & Abdullah, 2016) which stated that human achievement depends on interactions between one's behaviours, personal factors and environmental conditions. Self-efficacy beliefs help people in estimating how much effort they will exert against a difficult situation, how long they will muster the effort in the face of adversity and how they will pull themselves together (Bandura, 1977; Pajares 2002).

Therefore, according to Bandura (1988) the trust is a factor that is as important as the skills, abilities and knowledge in determining their achievement and behaviour. A high level of self-efficacy beliefs carries higher purpose and consistency in individual decisions; provide a high level of cognitive processes and motivation (Locke and Latham, 1990). Bandura (1997) emphasizes that self-efficacy beliefs rely on four sources are interrelated and this belief occupies an important place in human life. Bandura summarizes these resources as follows:

Mastery experiences (work accomplished and achieved goals): It is directly related to the individual's own experience; the success of an individual is success indicator in the future. Mastery/performance achievements have a greater impact on self-efficacy because the student is directly involved in completing specified tasks. In any given task, success enhances self-efficacy while failing to accomplish the work reduces self-efficacy. More scholars have concurred with Bandura's work on social cognitive theory proposing that self-efficacy is a domain precise confidence in an individual's capacity to fruitfully achieve in a given task, which positively impacts on action and success in completing the task (Bruning & Dempsey, 2013). Clearly, success or mastery is a factor that promotes self-efficacy and once it is firmly established in an individual, any other sporadic failures have little impact on self-efficacy. When learners are successful, self-efficacy increases; but, failure to complete the job lowers self-efficacy. Nevertheless, after self-efficacy is established through direct success in a specific field, intermittent failure has a limited effect. In addition, mastery in one area usually increases self-efficacy in the other area since the student generalizes his or her self-efficacy to other areas.

Modeling/Vicarious experiences (thoughts of others): The number of expected results from the experience of others. Observations achievements of others impact on the individual's own expectations of success. Modelling /vicarious experiences is the second source of self-efficacy where students sees the other person achieving in a specific task and envisages how he or she might perform in the equivalent or comparable situation (Bruning & Dempsey, 2013). Observation is another factor that inspires self-efficacy especially when one watches a

classmate perform excellently in a task. Students usually admire highfliers in class and desire to associate with them; hence, they equally work harder to earn friendship. Observing peers succeed in given tasks elevates the observers' beliefs that they too can equally succeed in similar activities. Modeling influences provide a social standard against which the observer judges their own abilities. The observer gains skills and strategies to manage performance tasks by emulating people who possess the competencies to which they aspire. Although vicarious experiences impact self-efficacy, Bandura (1998) asserts that they are not as influential as effectively participating in the activity itself.

Verbal persuasion (external support): Expression and advice from others to the realization of success to encourage changes in individual behavior and can contribute to changes in self-efficacy. Verbal persuasion is the third source of self-efficacy in which individuals permit themselves to be convinced that they too can successfully deal with a difficult situation that they previously perceived to be beyond their capacities Bandura (1998). When one is verbally convinced that they can equally do the task, they are more likely to activate greater determination and succeed. On the other hand, harboring self-doubts and dwelling on personal deficiencies when problems arise diminishes self-efficacy. Persuasion is putting pressure on someone leading them to give their best shot to succeed thereby promoting development of skills and boosting their self-efficacy. However, peer pressure in schools makes students conform to fit in the group.

Motivation processes (emotional state) Welfare or physical and mental health affects their potential for expected behavior. Affective/emotional arousal is proposed as the last source of self-efficacy. The state of emotional stimulation of a person can influence their self-efficacy. Bandura (1998) envisages that a high level of anxiety in a student due to a specific task or situation such as public speaking may lower the sense of self-efficacy. However, continuous success in a task can lower the student's anxiety level thereby increasing their self-efficacy.

Many studies reveal that exposure to a variety of life stressors, such as childhood abuse and neglect, can negatively affect social-psychological resources like self-efficacy and increase vulnerability to risks health and life-threatening status. Prominently, an array of hardships and negative outcomes linked with stress affect self-efficacy which in turn influences the relationship between child abuse and negative outcomes. Contrasting neglect and abuse, Petersen et al. (2016) assert that abuse is active while neglect is a passive occurrence. Self-efficacy is anchored on the attachment theory which underscores the prominence of a child's relationship with their primary caregiver and that the quality of this attachment provides the 'secure-base' where the child benefits mastery experience. Research indicates that violating the attachment theory through childhood abuse has a negative influence on the individual's self-cognitions. Students who have secure attachments early in life can satisfy their needs through their own efforts while those with those with insecure attachments due to abuse and neglect tend to lack personal control affecting their self-efficacy. Abuse manifests in various forms such as emotional abuse, physical abuse, sexual abuse, psychological and social problems and neglect which collectively cause trauma and depression, substance dependency, problems in interpersonal relations leading to lowered self-esteem. One effective strategy to improve student's self-efficacy is through guidance and counseling services. However, with proper guidance and counseling support, individuals with experiencing difficulties in learning can build the self-esteem they need to succeed in their life.

Guidance and counselling have been in existence in educational institutions over the years. However, the traditional approaches that have been used are no longer relevant to meet the needs of the students in the current environment. At present, learning effectiveness and efficiency are being stressed to realize the goal of educating responsible and productive students who have a global consciousness. In line with United Nations' Sustainable Development Goal that emphasis is on developing twenty-first century skills and competences among students, there is need for comprehensive guidance and counselling services which are

critical to help prepare students to meet the challenges of the future Florida Department of Education Division of Workforce Development (2010).

According to UNESCO Guidance (2000) guidance is a developmental process whereby an individual is helped to appreciate, accept and practice his/her abilities, skills and interests and attitudinal patterns relating to his/her aspirations. In educational settings, guidance comprises of those experiences that help each student to understand and accept him/herself, and effectually live in his/her society. This is over and above what the student experiences in the work places. In agreement, is the National Council of Educational Research and Training (2018) which views guidance as what competent counsellors do to an individual or a group of students in the form of assistance that directs the progression in life, develop a point of view, decision-making and be better adjusted. Ideally, guidance is not giving directions, or imposing one's point of view on another person.

The person offering guidance does not take the responsibility of making decisions on behalf of the client. In reality, guidance is not giving ready-made solutions, but rather assisting students/learners to navigate through their problems to come up with solutions. Ekwe (2000) views guidance as a needs-based programme or services to students facing various challenges in education or life in general. Through guidance, a student is assisted in setting realistic goals for themselves, so that they can adapt to the environment and improve in their education. Guidance, therefore, contains a succession of actions that are progressive towards goal achievement. Thus, from the given definitions, the subsequent salient points emerge;

- Guidance is a purposeful helping relationship.
- It is a planned educational programme provided for students by guidance specialists and educators on continuous basis.
- Guidance is intended to assist the individual students to understand and accept themselves and the world around them, thereby becoming responsible and productive citizens.

Orhungur (2009) defines counseling as it involves some person or persons called "counsellors" being hired by another person or persons called "clients", to help the clients solve some sort of personal or social problems. In clarifying further, the meaning of counselling, Gysters (2016) asserted that guidance is often contradicted or interchanged with counselling. Gysters (2016) views counselling as an in-depth interaction between two or few individuals with the intent of assisting the client to better understand himself in relationship to his or her present and further problems. The interaction that takes place between the client and the counsellor is so intense and of high quality that the end product is a change in behaviour due to the learning process that had taken place during interaction. Gysters (2016) further explained that "counselling deals with effective realm, which involves feelings, emotions, attitudes and not simple ideas. According to Aloa (2019), counselling is a helping relationship between the counsellor and the client. The functions of the counsellor in the helping relationship are to provide the facilitative and action conditions necessary for change in the client's mode of thinking, feeling and behaviour. UNESCO Guidance (2000) defined counselling as a learning-oriented process which usually occurs in the literature relationship with the aim of helping the person learn to put such understanding to effective use for self and society. However, with proper guidance and counselling support, students experiencing difficulties in learning can build their self-efficacy they need to succeed in their life (Owuor , Gori and Kimani 2017).

Owuor et al. (2017) further explain that the main goal of guidance and counselling in the mainstream schools is to enhance the self-efficacy of students with emotional and behavioural problems. According to Nkechi, Ewomaoghen and Egenti (2017) outline some of the contributions of school guidance and counselling services in promoting students' self-efficacy involve:

- Encouraging facilitative, co-operative peer interactions;

- Preparing students through academic, career, and personal/social development for 21st century learning.
- Assuring equitable access to educational opportunities;
- Broadening knowledge of the changing world;
- Enhancing personal development;
- Assisting in developing effective interpersonal relationship skills;
- Providing advocacy for students;
- Fostering resiliency factors for students;
- Relating educational programmes to future success;
- Facilitating career exploration and development;
- Assisting in acquiring knowledge of self and others; and
- Developing decision-making and problem-solving skills.

Guidance and counselling services also help students choose and pursue achievable and sustainable careers. The complexity and dynamic nature of the world makes it difficult for students to decide on career choices. The changes in time, people and technological advancements challenge individuals to transform to new ways of living and working. Therefore, guidance and counselling programmes are necessary to enlighten students about several existing job opportunities required the qualifications, responsibilities involved and the nature of work so that they can make informed decisions and have clear occupational goals Nkechi, Ewomaoghen and Egenti (2017). Furthermore, UNESCO Guidance (2000) identifies the following functions of guidance which can enhance self-efficacy among students if effectively implemented:

- Assists students to realize their talents and make appropriate career choices;
- Encourages students to maximize use of all educational opportunities, which will benefit them in life.
- Through guidance and counselling students recognize the relationship that exists between curricular and extracurricular activities
- Informs students about job prospects and the actual procedures required for getting employment and succeeding in it
- Encourages students to make informed decisions on the type of life they would like to lead depending on their interests, values, abilities, skills and motivation to learn;
- Helps students to adapt to change as they tackle various problems which emanate from the ever-changing society.

For instance, currently in the world of work, the focus is on self-employment and entrepreneurship than in the past years. More so, Nkechi et al. (2017) are of the view that guidance has a responsibility for developing and maintaining a co-operative relationship between students and the school. Teachers and counsellors should be mindful of students' needs, whereas students are expected to adjust to the school environment. The students' main obligation to the school is to use the school's resources appropriately and work towards attainment of set standards. The provision of suggestions to improve the programmes through carrying out educational research, conducting counselling sessions to assist students, and encouraging positive school-home environment facilitates the mutual adjustment of students and the school. As a result, such mutual cooperation between the students and the school builds self-efficacy in students. The main focal point of guidance and counselling services will be to develop a balanced individual intellectually, spiritually, morally and socially. Thus, guidance and counselling services assist students to harmonize their abilities, interests and values, thereby enabling them to develop their potential fully. Such exposure to guidance and counselling services helps students to formulate realistic life goals and plans. Therefore, this

intend to investigate the extent guidance and counseling services will enhance self-efficacy of mathematics pre-service teachers.

Purpose of the study

The main purpose of this study was to determine whether guidance and counseling services will enhance self-efficacy of mathematics pre-service teachers. Specifically, the study sought to;

- i. To find out the extent school guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions.
- ii. To ascertain whether gender guidance and counseling teacher educators will be a significant factor on the extent school guidance and counselling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions
- iii. To ascertain whether academic qualification of guidance and teacher educators will be a significant factor on the extent school guidance and counselling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions.

Hypotheses

The null hypotheses were formulated to guide the study at 0.05 level of confidence.

H₀₁: There is no significant difference in the mean scores of male and female guidance and counseling educators on the extent school guidance and counselling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions

H₀₂: Academic qualification is not a significant factor among guidance and counselling educators on the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions.

Method

The descriptive survey research was used for the study. According to Maduakonam (2004), a descriptive survey research seeks to collect detailed factual information that describes the nature of existing conditions. It assesses the characteristics of the whole population and usually study sample drawn from the population of the study. The population of the study consisted of all the guidance and counseling teacher educators in tertiary institutions' Imo state. The sample was made up of 30 guidance and counseling teacher educators. Simple random sampling was used in selecting the sample size. A 15-item self-made instrument titled "Enhancing Students Self Efficacy through Guidance and Counselling Questionnaire (ESSSEGCQ) was used for data collection. The items were constructed based on literature enhancing mathematics pre-service teachers' academic self – efficacy through guidance and counselling services. The ESSSEGCQ was measured on a 4-point likert-type format of Strongly Agree, Agree, Disagree and Strongly Disagree, which were assigned numerical values, 4, 3, 2, and 1. A total of 30 questionnaires were distributed and collected personally by the researchers. Face and content validity of the instrument were established by lecturers who were experts in psychology and science education. They scrutinized the contents of the questionnaire, offered useful corrections and suggestions, which led to some modifications. Based on such corrections and modifications, the instrument was considered adequate and the final draft of the questionnaire was produced. The reliability of the instrument was established when it was administered to 10 guidance and counselling teacher educators selected from two schools, which are similar with the people used in the main study. The instrument has reliability of 0.79 and 0.83 Cronbach alpha and split-half (Spearman-Brown) respectively. The reliability coefficients were considered high enough and suitable for use in this study. Mean and standard deviation were

used to analyze the data for the research questions while t-test was used to test the null hypothesis at 0.05 level of confidence. The acceptable level of mean score was 2.50 and above.

Results

Research Question One: To what extent school guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions

Table 1: mean and standard deviation on school guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions

S/N	ITEMS	MEAN	SD	DECISION
1	Encouraging facilitative, co-operative peer interactions;	3.21	0.4	Accepted
2	Preparing students through academic, career, and personal/social development for the twenty-first century challenges;	3.00	0.3	Accepted
3	Assuring equitable access to educational opportunities;	2.98	0.1	Accepted
4	Broadening knowledge of the changing world;	3.05	0.3	Accepted
5	Enhancing personal development;	3.11	0.2	Accepted
6	Assisting in developing effective interpersonal relationship skills;	3.23	0.5	Accepted
7	Providing advocacy for students;	3.05	0.3	Accepted
8	Fostering resiliency factors for students	3.00	0.3	Accepted
9	Relating educational programmes to future success;	3.00	0.3	Accepted
10	Facilitating career exploration and development;	3.02	0.3	Accepted
11	Assisting in acquiring knowledge of self and others	3.21	0.4	Accepted
12	Developing decision-making and problem-solving skills.	3.00	0.3	Accepted
13	Encourages students to make informed decisions on the type of life they would like to lead depending on their interests, values, abilities, skills and motivation to learn; an	3.03	0.2	Accepted
14	Assists students to realize their talents and make appropriate career choices;	3.01	0.3	Accepted
15	Through vocational guidance, students recognize the relationship that exists between curricular and extracurricular activities;	3.11	0.2	Accepted

Results in table 1 indicated all the question items scored above 2.50. This implies that school guidance and counseling services promote self-efficacy among mathematics pre-service teachers in tertiary institutions.

H₀₁: There is no significant difference in the mean scores of male and female school guidance and counseling educators on the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions

Table 2: Gender the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions

Gender	N	Mean	SD	α	Df	t-cal	t-tab	Decision
male	20	23.34	3.02	0.05	18	0.82	1.96	Accept HO
female	10	22.19	3.11					

The result of the t-test shows the calculated t-value of 0.82 is not significant at ($P > 0.05$) the null hypothesis is not rejected and the researchers conclude that there is no significant difference in the mean scores on the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions

H₀₂: Academic qualification is not significant factor among guidance and counseling educators on the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions.

Table 3: Analysis of variance on the mean scores of the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions.

Source of Variation	Sum of Squares	df	Mean Square	F	Sign	Decision
Between groups	219.077	2	109.503	2.754	0.005	Accept Ho
Within groups	11807.940	27	39.757			
Total	2026.947	29				

The result of table 3 reveals that F-value is less than the table-value at 0.05 level of significant. The null hypothesis is of no difference is therefore accepted. This implies that there is no significance difference in the mean score of on the extent guidance and counseling services will promote self-efficacy among mathematics pre-service teachers in tertiary institutions.

Discussion

Results showed that school guidance and counseling services promote self-efficacy among mathematics pre-service teachers in tertiary institutions irrespective of gender and academic qualification of guidance educators. This is in agreement with Nkechi, Ewomaoghen and Egenti (2017) outline some of the contributions of school guidance and counselling services in promoting students' self-efficacy. Also, UNESCO Guidance (2000) identifies the following functions of guidance and counseling which can enhance self-efficacy among students if effectively implemented: Assists students to realize their talents and make appropriate career choices, encourages students to maximize use of all educational opportunities, which will benefit them in life, through guidance and counselling students recognize the relationship that exists between curricular and extracurricular activities, informs students about job prospects and the actual procedures required for getting employment and succeeding in it, encourages students to make informed decisions on the type of life they would like to lead depending on their interests, values, abilities, skills and motivation to learn; and helps students to adapt to change as they tackle various problems which emanate from the ever-changing society.

Conclusion

The study concludes that school guidance and counseling services promote self-efficacy among mathematics pre-service teachers in tertiary institutions irrespective of gender and academic qualification of guidance educators.

Recommendations

1. There is need for schools to avail guidance and counselling services to all students who need such services in order to promote self-efficacy in students.
2. Schools should employ professionally qualified counsellors who will be in a position to assist students accordingly.
3. Well-equipped guidance and counselling facilities should be provided by schools so that counselling ethics are observed.
4. Schools should initiate guidance and counselling staff development programmes for teachers to acquaint them with knowledge and skills on how to assist students who need guidance and counselling services.

References

- Aloa, N. U. (2019). The Challenges of Guidance and Counselling Service in Primary Schools in Akwa Ibom, Nigeria. *Ibom Journal of Counselling*. 1(1), 97 – 106.
- Bandura A (1988). Perceived self-efficacy: Exercise of control through self-belief. In JP Dauwalder, M Perrez, V Hobi (Eds) *Annual series of European research in behavior therapy*. Amsterdam/Lisse, Netherlands 2, 27-59.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*. 4 (3)359-373.
- Bandura, A. (2006) Guide to the construction of self-efficacy scales. In: *Self-efficacy beliefs of adolescents*. Eds: Pajares, F. and Urdan, T. Greenwich, CT: Information Age Publishing. 5, 307-337.
- Bruning, R, Dempsey, M., Kauffman, D.,F, McKim, C.,Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Education & Psychology*.105(1)
- Emmer E, Hickman J (1991). Teacher decision making as a function of efficacy attribution and reasoned action. Paper presented at the Annual Meeting of the American Educational Research Association, Boston MA.
- Florida Department of Education Division of Workforce Development (2001). *Florida's School Counselling and Guidance Framework: A Comprehensive Student Development Program Model*. Retrieved from: [https://www.scribd.com/document/248943081/ FL-School-Counselling-Framework](https://www.scribd.com/document/248943081/FL-School-Counselling-Framework).
- Gysbers, N. C. (2016). *Developing and managing your school guidance program*. Washington, DC: American Counseling Association.
- Jackson, C. R. & Lettingwell, J. A. (2020). Two teaching methods and students' understanding of sound. *School Science and Mathematics*, 96(2), 63-67.
- Locke EA, Latham GP (1990). *A theory of goal setting and task performance*. Englewood cliffs NJ: Prentice Hall.
- McKechnie, J., D. (2012). Factors related to college going self-efficacy among urban African American high school students (Doctoral dissertation). College Park: University of Maryland.
- Nasiriyani, A. Azar, H. K. Noruzy, A. Dalvand, M. R. (2011). A model of self-efficacy, task value, achievement goals, effort and mathematics achievement. *International Journal of Academic Research*. 3 (2). 612-618.
- National Council of Educational Research and Training (2018) *Guidance and Counselling*. Retrieved from: <http://ncert.nic.in/textbook/pdf/lehe108.pdf>
- Nkechi, E.,E., Ewomaoghene, E.,E., Egenti, N. (2016). The role of guidance andcounselling in effective teaching and learning in schools. *RAY: International Journal of Multidisciplinary Studies*. 1(2):36-48.

- Nwoke B.I. & Nnaji, L.N. (2011) effects of using mathematics laboratory in teaching mathematics on student's achievement in mathematics. *Journal of Issues on Mathematics* 14(2)
- Orodho, A .J (2009). Elements of Education Social Science and Research Methods. Maseno: Kenezja publishers.
- Owuor, M.,E, Gori, J., Kimani, M. (2017) Effect of peer counselling on self esteem of students with behavioural and emotional difficulties in primary schools in Nakuru-Sub County. *IOSR Journal of Humanities and Social Science*. 22(7):41-48.
- Pajares F (1996). Self-Efficacy beliefs in achievement settings. *Review of Educational Research*. 66: 543-578.
- Pajares, F. (2002). Overview of Social Cognitive Theory and of Self-Efficacy Retrived January 11 2004 from <http://wwwemoryedu/EDUCATION/mfp/effhtml>.
- Petersen, A.,C, Joseph, J., Feit, M. (2014). Committee on child maltreatment research, policy, and practice for the next decade: Phase II; boardon children, youth, and families; committee on law and justice. Institute of Medicine. New Directions in Child Abuse and Neglect Research.
- Saracoglu, A.,S., Yenice, N. (2009).Investigating the self efficacy beliefs of science and elementary teachers with respect to some variables. *J. Theory Practice Educ*. 5(2)244-260.
- Sherman, E., & Wither, O. (2003). Facilitating conceptual change in understanding state of matter and solubility concepts by using 5E learning cycle model. *Hacettepe University Journal of Education*, 36, 41-50.
- Solberg V., S., Carlstrom, A.,H, Howard, K.,A, Jones, J.,E. (2007). Classifying at-risk high school youth: The influence of exposure to community violence and protective factors on academic and health outcomes. *The Career Development Quarterly*.54(4)313-327
- Unamba, E.C., Ugochukwu N., J. & Ewunonu N. (2017). School factors and pupil's academic achievement in mathematics: A case for internalization of education. *Academic scholarship journal* 14(1)217-229.
- UNESCO Guidance (2000). Module 2000a, 1. Retrieved from: unesco.org/education/mebam/module_1.pdf
- Woolfolk, A.,E, Rosoff, B., Hoy, W.,K. (1998). Teachers' sense of efficacy and their beliefs about managing students. *Teaching and Teacher Education* 6(2)137-148.
- Yuksel-Sahani, S. (2008). The effectiveness of the learning-cycle method on teaching dc circuits to prospective female and male science teachers. *Research in Science & Technological Education*, 23(2), 213-227.