IOSR Journal of VLSI and Signal Processing (IOSR-JVSP)
Volume 5, Issue 3, Ver. II (May - Jun. 2015), PP 52-58
e-ISSN: 2319 – 4200, p-ISSN No. : 2319 – 4197
www.iosrjournals.org

Self-Directed Learning Strategy: A Tool for Promoting Critical Thinking and Problem Solving Skills among Social Studies Students

[1]Oyibe, Ogene Azubuike Ph.D, [2]Edinyang, Sunday David Ph.D,
[3]Effiong, Veronica N. Ph.D

Department of Arts and Social Science Education, Ebonyi State University, Abakaliki, Nigeria.
Department of Curriculum studies, Faculty of Education, University of Calabar, Cross River State, Nigeria.
Department of Curriculum studies, Faculty of Education, University of Calabar, Cross River State, Nigeria.

Abstract: *This paper focused on impact of self-directed learning strategy as a tool for promoting critical thinking and problem solving skills among Social Studies students. The discipline (Social Studies) in Nigeria for long had been criticized for not quite preparing students for effective living in the society as result of inappropriate utilization of teaching and learning strategies in its classroom interaction. This is because the classroom activities of the discipline focused mainly on activities which the students acquire facts, rules, and action sequences. Majority of the Social Studies lessons require outcomes only at the lower levels of cognition: knowledge, comprehension and application. Therefore leaving the other aspects of learning domain unharnessed and utilized. The instructional activities focused only on the cognitive domain of learning did not balance the learning capacity of the learners thereby causing to see their teachers as embodiment of knowledge. Social Studies as an interdisciplinary discipline requires the students to think independent of their teachers or go beyond the content in their text and workbooks but the fact still remains that the manner in which most Social Studies instructions occurs could not be teaching students to become aware of their own learning capacities, to think critically, and derive their own patterns of thought and meaning from the content presented. These call for application of self-directed learning strategy as a method that may offer solution to students' inability to think independently. Self-directed learning strategy is a type of self-planned, self-initiated, and autonomous learning principally derived from the humanistic psychology that regards learners as responsible directors of their own learning experiences. It is the strategy used in teaching and learning situations which involves getting students to unleash their imaginative and intuitive capacities through learning and promotes maximum interaction between and among students to enhance efficient decision making while discussing and analyzing social issues. The strategy encourages the development of critical thinking through discussion, negotiations and clarifications of basic content or ideas because in self-directed learning, students enjoy the liberty to advance their own ideas and to benefit from the ideas and views of others. Self-directed learning strategy involves students in making connections between new and already known ideas or facts, engaging in dialogues in which hypotheses are formed, predictions are made, doubt expressed, uncertainties subsequently clarified and the orthodox/traditional views modified by new ideas. In this paper, the role of self-directed learning strategy in promoting critical thinking and problem solving skills among Social Studies students were discussed and suggestions were made*

I. Introduction

One of the challenges for Social Studies teachers is to meet the individual needs of students in a classroom setting characterized by multiple levels of ability, achievement, and social and physical development. Although all regular classroom also have diverse students levels of learning, achievement, social and physical development from different socio-cultural background as found in Social Studies classroom that lead to increased demands on teachers time and efforts. Social Studies teachers, therefore, should be well equipping, organized, resourceful, and able to develop effective independent learning skills in the students through a product-oriented instructional process.

Agreeing with the above view, Woolfolk (2010) opined that much of today's classroom teaching and learning focused on activities which the students acquire facts, rules, and action sequences. He stated that majority of the lessons require outcomes only at the lower levels of cognition: knowledge, comprehension and application. This explained why some national studies of the state of education in the United States of America (USA) and Nigeria, for instance; (American Association for the Advancement of Science, 1996, 2005; National Council for Social Studies, 2002, 2006. Then the Nigeria national studies like, National Council of Teachers of English, 1996, 2006; National Council of Teachers of Mathematics, 2000, 2005) found many students unable to

think independently of the teacher or to go beyond the content in their text and workbooks. From the above findings, it could be deduced that the manner in which most schooling occurs could not be teaching students to become aware of their own learning capacities, to think critically, and derive their own patterns of thought and meaning from the content presented.

A touchstone of effective independent learning is that students are in charge of their own learning; essentially, they direct their own learning processes, (Vincent and Ley, 1999). Jones, Valdez, Nowakowski and Rasmussen (1995) in their view of indicators of engaged and effective learning, described characteristics of students who are responsible for their own learning. According to them, one of the characteristics of students who are responsible for their own learning is a student's ability to shape and manage change, in order to be self-directed. In the same line of thought, Covey (2000:71) recognized the importance of self-directedness, which he calls productivity, by including it as one of the habits characterizing highly effective individuals. To him:

> It means more than merely taking initiative. It means that as human beings, we are responsible for our own lives. Our behavior is a function of our decisions, not our conditions. We can subordinate feelings to values. We have the initiative and the responsibility to make things happen.

In a further thought, Candy in Scott (2006:1) suggested that "… much research on education has tended to compartmentalize existing and new understanding, to uncouple learners' intentions from their approaches, and to submerge or ignore how people construct meaning in their lives and interpret and define their actions". He further claimed that "in the case of an autodidactic project, one rarely encounters descriptions of what the learner feels or what he or she thinks as the project takes shape and that examining the attitudes and intentions of learners is essential to gaining full understanding of their actions". Candy challenged the research community to investigate learners' concepts of themselves as learners and report findings in learners' voices. According to him;

> Researchers should examine learners' concepts of themselves as learners. This would include trying to ascertain both generalized subject-specific images of their learning competence; the origins of such notions in their past; how they change or consolidate their self-concept as a learners during the course of a learning endeavor; the particular points in learning experiences (both autodidactic and instructional) where they felt either especially blocked and incapacitated or else especially competent and capable; and the cues embedded in the learning situation that they believe inhibit or release their potential for exercising control over the leaning situation.

Social Studies teachers can nurture students' self-direction and critical thinking skills by providing students with opportunities before, during and after instruction to exercise some control over their own learning. Emphasizing more on students' self-direction and critical thinking, Vincent and Ley (1999) maintained that students are to be taught and engaged in a specific strategies that offer them opportunities to make decisions and solve problems on their own without being told what to do at all times. This does not mean that students are to make all the decisions, and it does not mean reverting to the curriculum of 'personal relevance' of the 60s or the 'learner-centered curriculum' of years ago but a means of providing students with specific strategies designed to help them process information effectively and be self-confident, believing that they have the ability to succeed. In addition, perhaps most important, to help students become more effective about their thinking and learning processes geared towards problem solving.

The specific strategies as mentioned above include encouraging students to set their own goals for personal development and instructional improvement, and planning ways to achieve these goals. Hom and Murphy (2003:104) were of the view that:

> A growing body of research indicates that when students are working on goals they themselves have set, they are more motivated and efficient, and they achieve more than they do when working on goals that have been set by their teacher.

This therefore, is in contrast to a historical pattern of children developing within the knowledge range of their teacher and the social system in which they live; many children today spend a majority of their time in an independent thinking, trying to manipulate their skills to solve social problems at their environment. This pattern of life-style by children (that is the historical pattern) is believe by some educators to contribute to the declining social support system and compromised development of children's social and academic skills, (Ikwumelu and Oyibe, 2014). According to them, children should be allowed to contribute at large extent in solving their own problems especially with regard to teaching and learning development.

II. Concept and Importance of Self-directed Learning Strategy in Social studies Education

Self-directed learning strategy is a type of self-planned, self-initiated, and autonomous learning. The learning strategy is principally derived from the humanistic psychology, which regards learners as responsible directors of their own learning experiences. Self directed learning strategy is materializing when learners direct, and regulate their own learning process and experience self-actualization through deciding on the materials, methods, and goals of learning.

Self-directed instructional learning strategy according to Knowles (1975:18) is described as "a process in which individuals take the initiative, with or without help of others, in diagnosing their learning needs, formulating learning goals, identifying human and mental resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes". In addition, Borich (2011:328) was of the view that self-directed learning strategy is an approach to both teaching and learning that actively engages students in the learning process to acquire higher-order thinking skills. According to him, "self-directed learning is the strategy used in teaching and learning situations which involves getting students to unleash their imaginative and intuitive capacities through learning". He then outlined the reasons for the application of the self-directed learning method in the teaching and learning situations to include;

i. To get students to unleash their imaginative and intuitive capacities through self-directed learning.
ii. To get students to accept responsibility for their own learning.
iii. To teach students to go beyond the content given, to think critically, reason and problem solving.
iv. To engage students in project – based learning strategy and
v. To promote the goals of self-directed learning using differentiated instruction.

Self-directed learning promotes maximum interaction between and among Social studies students to enhance efficient decision making while discussing and analyzing social issues. The method encourages the development of critical thinking through discussion, negotiations and clarifications of basic content or ideas because in self-directed learning, students enjoy the liberty to advance their own ideas and to benefit from the ideas and views of others. Teo (2006) asserted that self-directed learning involves students in making connections between new and already known ideas or facts, engaging in dialogues in which hypotheses are formed, predictions are made, doubt expressed, uncertainties subsequently clarified and the orthodox/traditional views modified by new ideas.

Agreeing with the above statement, Burke (2006) maintained that self-directed learning strategy helps students to construct their own understanding and meaning and help them to reason, solve problem, and think critically about the content. Self-directed learning strategy aims at assisting students discover their own learning styles as they participate directly in teaching and learning situations. In a bid to achieve all the above mentioned purposes of using self-directed learning strategy in the Social studies classroom, the classroom teacher has to assimilate and make use of the following principles;

a. To understand the central concepts, tools of inquiry and structures of the discipline he or she teaches and creates learning experiences that make these aspects of the subject matter meaningful for the students.
b. To understand how students learn, develop, and can provide learning opportunities that supports their intellectual, social, and personal development.
c. To understand how students differ in their approaches to learning and create instructional opportunities that are adapted to diverse students.
d. To understand and use a variety of instructional techniques to encourage students' development of critical thinking, problem solving and performance skills and
e. To use knowledge of effective verbal, nonverbal and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom (Borich, 2011).

III. Critical Thinking and Self-directed Learning Strategy in Social Studies Education

Social studies education in Nigeria for long had been criticized for not quite preparing students for effective living in the society as result of inappropriate utilization of instructional methods in its classroom interaction. Agreeing with the above view, Okpalama (2008:65) stated that the "inability of Social studies education to actualize its expected goals of preparing students for worthy living is proved beyond reasonable doubt by the low level of performance of Social studies students in external examination". Lamenting on the poor performance, the chief examiner's report on the performance of students in Social studies examination in the July 2014 said "the performance is generally poor. It was disheartening to see the degree of ignorance among candidates of Social studies as they failed the spelling of their home country", (Ebonyi State Secondary Education Board, 2014:12). The low level of students' performance had been attributed to a number of factors by Social studies educators. For instance Mkpa (2001) attributed it to improper selection and poor uses of Social studies instructional methods, others pointed accusing finger to poor teaching methods involving selection and application of orthodox or traditional methods in Social studies classroom not minding other numerous

approaches to teaching and learning of the language of Social studies, (Oyibe and Nnamani, 2014). According to them, one of these approaches is critical thinking that is view as a mental habit promoting reflection, and is an examination of ideas in terms of pieces of evidence.

The National Council for Excellence in Critical Thinking defined critical thinking as the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. It is a type of clear, reasoned thinking that causes new ideas to be effectively reasoned and thought out in the process of passing judgment. Critical thinking must therefore, be strongly valued as a key to educational success in Social studies education since it help learners to apply logic to solve problems and make decisions. Teachers should challenge learners to think critically about course concepts especially as they unfold. There are manifold strategies to develop critical thinking in learners by classroom teachers. One of these methods is self-directed learning strategy since learning does not necessarily occur in formal educational settings because learners can learn all by themselves in informal settings. Taking a great deal of initiative in their own learning, learners can choose learning strategies independently of their teachers. To have a developed self and ability to think critically, as a research has highly recommended that learners manage their own learning process through engagement in self-directed learning (Hom and Murphy, 2003).

In line with the above assertion, Costa and Kallick (2004) stated that employing product-oriented method or methods of teaching could not as well evaluate the process-oriented goals, as the learner's capacity to grow more self-applausive and self directed. Accordingly, they recommended that the current assessment model switch to the one that paves the way for a more sensible procedure that embraces classroom-oriented evaluations supplementing state-oriented evaluations, (Costa and Kallick, 2004). Real-life and alternate forms of evaluation are requisites for appraising learners' progress toward self-directedness. Taking cognizance of the designated consequences of learning and learning about their growth during the learning process can considerably raise learners' level of self-direction. Generating a product or performance allows real-life and alternate forms of evaluation to help learners show their utilization and comprehension of knowledge, (Schlechty, 2003). This does not mean that students make all the decisions, and it does not mean reverting to the curriculum of 'personal relevance' of the 60s or the 'learner-centered curriculum' of years ago but a strategy for preparing the learners to critically think about a concept before placing judgment.

Critical thinking engage learners in making reasoned judgments that are logical and well thought out and self-directed learning strategy is an approach to both teaching and learning that actively engages students in the learning process to acquire higher-order thinking skills. In critical thinking, learners are not expected to simply accept all arguments and conclusions they are exposed to but rather have an attitude involving questioning such arguments and conclusions. It requires wanting to see what evidence is involved to support a particular argument or conclusion, while self-directed learning strategy involves learners in making connections between new and already known ideas or facts, engaging in dialogues in which hypotheses are formed, predictions are made, doubt expressed, uncertainties subsequently clarified and the orthodox/traditional views modified by new ideas, (Teo, 2006). People who use critical thinking are self-directed and they the ones who say things such as,

'How do you know that? Is this conclusion based on evidence or gut feelings?' and 'Are there alternative possibilities when given new pieces of information?'

Critical thinking provides learners with the skills to analyze and evaluate information. With these skills learners will able to obtain the greatest amount of knowledge from a piece of data which will provides the best chance of making the correct decision, and minimizes damages if a mistake does occur but self-directed learning strategy promotes maximum interaction between and among Social studies students to enhance efficient decision making while discussing and analyzing social issues. The strategy encourages the development of critical thinking through discussion, negotiations and clarifications of basic content or ideas because in self-directed learning, students enjoy the liberty to advance their own ideas and to benefit from the ideas and views of others. Critical thinking is the process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information to reach an answer or conclusion. It is a purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological or contextual considerations upon which that judgment about a particular social concept, issue and event is based.

Reynolds (2011) outlined the list of core critical thinking skills to include observation, interpretation, analysis, inference, evaluation, explanation, and metacognition. According to him, an individual or group engaged in a strong way of critical thinking gives due consideration to establish for instance:

- Evidence through reality
- Context skills to isolate the problem from context
- Relevant criteria for making the judgment well
- Applicable methods or techniques for forming the judgment

- Applicable theoretical constructs for understanding the problem and the question at hand

In addition to possessing strong critical-thinking skills, one must be disposed to engage problems and decisions using those skills. Critical thinking employs not only logic but broad intellectual criteria such as clarity, credibility, accuracy, precision, relevance, depth, breadth, significance, and fairness. For the purpose of developing critical thinking skills among students in the Social studies classroom, the classroom teacher has to encourage students to assimilate and make use of the following abilities;

- Recognize problems, to find workable means for meeting those problems
- Understand the importance of prioritization and order of precedence in problem solving
- Gather and marshal pertinent (relevant) information
- Recognize unstated assumptions and values
- Comprehend and use language with accuracy, clarity, and discernment
- Interpret data, to appraise evidence and evaluate arguments
- Recognize the existence (or non-existence) of logical relationships between propositions
- Draw warranted conclusions and generalizations
- Put to test the conclusions and generalizations at which one arrives
- Reconstruct one's patterns of beliefs on the basis of wider experience
- Render accurate judgments about specific things and qualities in everyday life

In summary, the classroom teacher should mount a persistent effort on the learners to examine any belief or supposed form of knowledge in the light of the evidence that supports or refutes it and the further conclusions to which it tends.

IV. Problem-solving Skills and Self-directed Learning Strategy in Social Studies Education

Cognitive learning strategists recommend that the school curriculum in most subject areas be organized round real-life problems that learners work on for days or weeks (Viadero, 2003; Posamentier & Krulik, 2008). According to Barell (2006), curricula today are isolated by disciplines (algebra, biology, geography, Social Studies and humanities among others) that identify lists of topics, facts and skills to be covered by the end of a semester. Such curricular typically place learners in a relatively passive role and encourage rote or other forms of unmeaningful learning. As an alternative to this approach, growing numbers of educators advocate problem-based learning (Delisle, 1997; Barell, 2006). Problem-based leaning organizes the curriculum around loosely structure problems that learners solve by using knowledge and skills of critical thinking from several disciplines and Social Studies curriculum is a topic example in a problem-based learning curriculum. This appears to be the reason behind some authors referring to Social Studies as a problem solving discipline.

To benefit from problem-based learning however, learners must be self-directed and know how to solve problem through critical thinking. Because problem solving is a cognitive learning strategy developed in self-directed learning in which few learners receives systematic instruction, teachers increasingly will be called on to teach this skill. There are many systems for solving problems that the classroom teacher may teach learners (Lambros, 2004; McGrath, 2007). These methods are generalizable to all curriculum areas and to a variety of problems, whether they are well-defined problems, for example. The word problems typically seen in math curricular or ill-defined problems with no single answer, with many solution paths as could be found in Social studies curricular, and for which the nature of the problem shifts as learners work on it.

One popular problem-solving system in self-directed learning strategy is called IDEAL, involves five stages for teaching problem solving (Num & Kimberly, 2000):

1. Identify the problem. Learners must first know what the problem or problems are before they can solve them. During this stage of problem solving, learners ask themselves if they understand what the problem is and if they have stated it clearly.
2. Define terms. Learners check that they understand what each word in the problem statement means
3. Explore strategies. Learners compile relevant information and try out strategies to solve the problem. This can involve options such as drawing diagram, working backward to solve a math or reading comprehension problem, or breaking a complex problem into manageable unit.
4. Act on the strategy. Once learners have explored a variety of strategies, they now select and use one
5. Look at the effects. During this final stage, learners ask themselves whether they have come up with an acceptable solution

V. Relevance of Critical Thinking to Social Studies Students in Problem Solving

Critical thinking is significant to Social Studies students because of its significance in the following learning processes. Critical thinking is significant in the learning process of internalization, in the construction

of basic ideas, principles, and theories inherent in Social Studies content. And critical thinking is significant in the learning process of application, whereby those ideas, principles, and theories are implemented effectively as they become relevant in learners' lives. Good teachers cultivate critical thinking (intellectually engaged thinking) at every stage of learning, including initial learning. This process of intellectual engagement is at the heart of the Social Studies classroom instruction in Nigerian school system. The teacher questions the students often in an analytic manner. The key is that such teacher who fosters critical thinking and reflectiveness in students by asking questions that stimulates thinking essential to the construction of knowledge used for problem solving.

The Uniqueness of Social Studies discipline in solving man-environmental problems led to adaptation of its use of critical thinking concepts and principles. The core concepts are always there, but they are embedded in the subject-specific content. For students to learn Social Studies content, intellectual engagement is crucial. All students must do their own thinking, their own construction of knowledge which demands the students must be self-directed. Good teachers recognize this and therefore focus on the questions, readings, and activities that stimulate the mind of the students to take ownership of key concepts and principles underlying the subject or topic under discussion.

Critical thinking, according to Reynolds (2011) is an important element of all professional fields and academic disciplines (by referencing their respective sets of permissible questions, evidence sources, and criteria). For instance, within the framework of scientific skepticism, the process of critical thinking involves the careful acquisition and interpretation of information and use of it to reach a well-justified conclusion. The concepts and principles of critical thinking can be applied to any context or case but only by reflecting upon the nature of that application. Le Cornu (2009) added that critical thinking forms, therefore, a system of related, and overlapping, modes of thought such as sociological thinking, anthropological thinking, historical thinking, political thinking, psychological thinking, philosophical thinking, mathematical thinking, chemical thinking, biological thinking, ecological thinking, legal thinking, ethical thinking, musical thinking, thinking like a painter, sculptor, engineer, and business person. In other words, though critical thinking principles are universal, their application to every discipline especially Social Studies that is an inter-disciplinary subject requires a process of reflective contextualization.

More so, critical thinking is considered important in the Social Studies as a field of study because it enables students to analyze, evaluate, explain, and restructure their thinking, thereby decreasing the risk of adopting, acting on, or thinking with, a false belief. In addition, even with knowledge of the methods of logical inquiry and reasoning, mistakes can happen due to a thinker's inability to apply the methods or because of character traits such as egocentrism. Therefore, thinking critically according to Mulnix (2010), includes identification of prejudice, bias, propaganda, self-deception, distortion and misinformation. Critical thinking skills can help Social studies students to solve problem, reflect, and make a conclusive decision about the current situation they face. Critical thinking creates "new possibilities for the development of the Social studies students' knowledge. Developing critical thinking by Social studies students is also considered important for human rights education for toleration. Supporting the above view, Ennis (2002) observed that, the Declaration of Principles on Tolerance adopted by UNESCO in 1995 affirms that "education for tolerance could aim at countering factors that lead to fear and exclusion of others, and could help young people to develop capacities for independent judgment, critical thinking and ethical reasoning as could be found among Social studies students.

VI. Conclusion

Judging from the discourse as presented above, it is clear that the skills of critical thinking and problem-solving are essential to all works of life in which we have to communicate ideas, make decision, analyze and solve problems. To live a good life as a human being, we need think about ourselves honestly and carefully as we examine the purposes and meaning of our lives and change accordingly. Critical thinking contributes to this process of self evaluation and transformation which lead to problem solving. Thinking about one's thinking in a manner designed to organize and clarify, raise the efficiency of, and recognize errors and biases in one's own thinking is the reflection of self-directedness. Critical thinking is not 'hard' thinking nor is it directed at solving problems but a strategy to 'improving' one's own thinking. Critical thinking is inward-directed with the intent of maximizing the rationality of the thinker. One does not use critical thinking to solve problems immediately but one uses critical thinking to improve one's process of thinking that will lead to problem solving.

VII. Recommendations

Based on the discourse as presented above, it is recommended that:

- As an interdisciplinary discipline, Social Studies curriculum should be refocused for promoting critical thinking among students,

- Social Studies teachers should plan their lesson in such a way that its instructional objectives will harness learning outcomes in the three domains of learning,
- Greater parts of Social Studies classroom instruction should focus mainly on problem solving activities, and
- Social Studies students on their own should engage themselves in self-directed learning rather waiting for their teachers to tell them what to do all the time.

References

[1]. American Association for the Advancement of Science (1996). Benchmarks for science literacy. Cary, NC: American Association for the Advancement of Science

[2]. American Association for the Advancement of Science (2005). Benchmarks for Science literacy. New York: Oxford University Press

[3]. Barell, J. (2006). Problem base learning: An Inquiry approach. Thousand Oaks, CA: Corwin

[4]. Borich, G. D (2011). Effective Teaching Methods, Research-Based Practice (7th ed.). New York: Pearson Education, Inc

[5]. Burke, K. (2006). From standard to rubrics in six steps: tools for assessing students learning in K-8. Thousand Oaks, CA: Corwin

[6]. Costa, A. L. and Kallick, B (2004A). Assessment strategies for self-directed learning. California: Corwin press.

[7]. Covey, S. (2000). The seven habits of highly effective people: Restoring the character ethic. New York: Simon & Schuster.

[8]. Delisle, R. (1997). How to use problem base learning in the classroom. Alexandria, VA: Association for Supervision and Curriculum Development

[9]. Ebonyi State Secondary Education Board (2014). Hand book on Examination Reports. Abakaliki: Government Press.

[10]. Ennis, R. (2002). "A Super-Streamlined Conception of Critical Thinking".http://faculty.education.illinois.edu/rhennis/SSConcCTApr3.html Retrieved 18 January 2013.

[11]. Horm, H. Jr. and Murphy, M. (2003). Cow achiever performance: The positive impact of self-directed goals. Personality and social psychology bulletin 11 (2) 775-285.

[12]. Ikwumelu, S. N and Oyibe, O. A. (2014). Effect of Self-Directed Instructional method on secondary school students' achievement in Social studies. International Journal of Learning and development, 5 (1) 1 – 9. www.macrothink.org/ijld

[13]. Jones, B. F. Valdaz, G., Nowakowski, J; and Rasmussen; C. (1995) plugging in: Choosing and using educational technology. Washington DC: Council for Educational Development and research

[14]. Knowles, M. (1975). Self-directed Learning: A guide for Learners and Teachers. New York: Association Press

[15]. Lambros, A. (2004). Problem based learning in Middle and High schools classroom: A teacher' guide to implementation. Thousand Oaks, CA: Corwin

[16]. Le Cornu, A. (2009). "Meaning, Internalization and Externalization: Towards a fuller understanding of the process of reflection and its role in the construction of the self". Adult Education Quarterly **59** (4): 279–297

[17]. McGrathy, C. (2007). Inclusion classroom problem solver: Structures and Supports to serve all learners. Portsmouth NH: Heinemann

[18]. Mkpa, M.A. (2001). Misconceptions and conception of Social studies. In C. Ofuebe (Ed). Teaching in Nigeria: A dynamic approach (Pp.143-158). Enugu: Cheston Limited.

[19]. Mulnix, J. W. (2010). Thinking critically about critical thinking. Educational Philosophy and Theory. doi:10.1111/j.1469-5812.2010.00673.x, p. 471

[20]. National Council for the Social studies (2006). National Standards for Social studies Teachers. Silver Springs. MD: National Council for the Social studies

[21]. National Council for the Social studies (2002). National Standards for Social studies Teachers. Silver Springs. MD: National Council for the Social studies

[22]. National Council of Teachers of English (2006). Guideline for the preparation of teachers of English language arts. Urbana, IL: National Council of Teachers of English.

[23]. National Council of Teachers of English (1996). Standards for the English Language Arts. Urbana, IL: National Council of Teachers of English.

[24]. National Council of Teachers of Mathematics (2005). Illustrating NCTM's Principles and Standards for school mathematics. Reston, AV: National Council of Teachers of Mathematics.

[25]. National Council of Teachers of Mathematics (2000). Principles and Standards for school mathematics. Reston, AV: National Council of Teachers of Mathematics.

[26]. Nunn, G and Kimberly, R. (2000). "IDEAL" Problem Solving using a collaborative effort for special needs and at risk students. Education, 10-16

[27]. Okpalama, A. A.(2008). Social studies textbook for Nigeria Teachers' Education. Ibadan: Ojo press

[28]. Oyibe, O. A. and Nnamani, S. C. (2014). students' preference of instructional methods used in teaching and learning of Social studies in secondary schools in Abakaliki metropolis of Ebonyi State, Nigeria. International Journal of Learning and development, 5 (1) 10 –18. www.macrothink.org/ijld

[29]. Posamentier, A. and Krulik, S. (2008). Problem solving strategies for efficient elegant solutions, Grade 6-12: A resource for mathematics teachers. Thousand Oaks, CA: Corwin

[30]. Reynolds, M. (2011). Critical thinking and systems thinking: towards a critical literacy for systems thinking in practice. In C. P. Horvath and J. M. Forte, (Eds). Critical Thinking, pp. 37–68. New York, USA: Nova Science Publishers.

[31]. Schlechy, B. C. (2003). Dropout Prevention Tools. Larchmont, New York: Eye on Education

[32]. Scott, K. W. (2006). Self-directed Learners' Concept of self as Learners: Congruous Autonomy. International Journal of Self-directed Learning, 3 (2) 1-13.

[33]. Teo, N. (2006). Problem-based learning. In A. Ong and G. D. Borich (ed), Teaching strategies that promote thinking. Singapore: McGraw-Hill

[34]. Viadero, D. (2003). RI focus district on research based common language. Education, 22 (29) 120-121

[35]. Vincent, E. and Ley, J. (1999). The multi grade classroom: A resource handbook for small, rural school. Main Street: North West regional educational laboratory

[36]. Woolfolk, A. (2010). Educational Psychology (11th ed). Boston: Allyn & Bacon