

# Attitude of science teachers towards teaching Integrated Science in Junior High Schools

K. Opong<sup>1</sup> and J.A. Tabi<sup>2</sup>

1 Tutor Bia Lamplighter College of Education (BLACOE) and 2 TutorWATICO

## Abstract

Science education is concerned in producing a scientifically literate society by acquainting the students with certain basic knowledge, skills and attitudes. For these and other reasons this study researches into the attitudes of science teachers towards the teaching of integrated science in Junior High Schools (JHS) level in Cape Coast Metropolis. There are 57 JHS in Cape Coast Metropolis, due to lack of time and financial constraints, the researcher used 10 of these schools containing 25 science teachers. A questionnaire was constructed and copies were sent out to the 10 schools selected purposely for the integrated science teachers to complete them. After completion, the data were analyzed and discussed in the text. From the analysis of the results, the following findings were established. That the background of the science teachers was moderately adequate for teaching science at the JHS level. It was also noticed that the materials and resources available for science teaching as well as community participation in science are inadequate at the JHS level. The result showed that teachers used various methods of teaching science. The result also revealed that science teachers face numerous problems. It was recommended that more specialist science teachers should be trained at the post-secondary or University Colleges of education to come and teach at the JHS level. Finally, government and curriculum planners should try and device a science curriculum for JHS that will relate to relevant contemporary issues of society and of the world at large.

**Keywords:** attitude, curriculum, disposition, enthusiastic, population.

## BACKGROUND OF STUDY

It has been said by one who has the gift of words that having the right attitude is far more important than knowing the right things. There is no novelty nowadays in suggesting that the study of science is largely an attitude of mind. Teaching is most likely to be successful when the subject is brought into the close contact with realities (Wagler & Wagler, 2011). Teachers should encourage and direct in their pupils sand attitude of enquiry and critical appraisal. Science as a discipline has been part of the educational system in Ghana since formal education as introduced into the country. In the advent of the New Educational Reform (NER) which was implemented in the early 1990's, Integrated Science has been designated as one of the subjects for all students in Junior High School (JHS) on which student write examination (BECE). Attitude is a complex mental state involving beliefs, feelings, values and dispositions to act in certain ways. Robert (1994) states that attitude is the result of several beliefs a person holds that makes him or her respond in a preferential way towards an object or situation. Science is a process for producing knowledge. The process depends both on making careful observation of phenomena and on inventing theories for making sense out of those observations. Change in knowledge is inevitable because new observations may challenge prevailing

theories. The modification of idea, rather than their outright rejection, is the norm in science, as powerful constructs tend to survive and grow more precise and to become widely accepted. For example, in formulating the theory of relativity, Albert Einstein did not discard the Newtonian laws of motion but rather showed them to only an approximation of limited application within a more general concept. The essence of science is validation by observation. But it is not enough for scientific theories to fit only the observation that are already known. Theories should also fit additional observations that were not used in formulating the theories in the first place, that are theories should have predictive power. Demonstrating the predictive power of a theory does not necessarily require the prediction of events in the future. The predictions may be about evidence from the past that has not yet been studied. Theories of the evolution of stars, however may predict unsuspected relationships between features of starlight can then be sought in existing collections of data about stars.

The implementation of the free education at the basic level has increased primary and junior high schools enrolment significantly and for that matter the pupil-teacher ratio. Classrooms that are supposed to accommodate a maximum of 45 pupils have now exceeded their capacity. The teacher together with the pupils has little space to operate. Practical activities that pupils need to acquire values and form attitudes and habits are virtually nil. This implies that the work load of the basic science teacher is near doubling. It must be emphasized that quality education greatly depends on the kind of quality interaction the teacher has with each child in the class. The majority of pupils receive no further education after leaving the junior high school.

Clearly the educational provisions within any given country represent one of the main determinant of the composition and growth of that country's output and exports and constitute an important ingredient in a system's capacity to borrow foreign technology effectively. For instance health and nutrition, primary and secondary education all raise the productivity of workers, rural and urban, secondary education including vocational, facilitates the acquisition of skills and managerial capacity, tertiary education supports the development of basic science, the appropriate selection of technology imports and the domestic adaptation and development of technologies, secondary and tertiary education also represent critical elements in the development of key institutions, of government, the law and the financial system, among others, all essential for economic growth. Empirical evidence at both micro and macro levels further illuminates these relationships. At a micro level, numerous studies indicate that increases in earnings are associated with additional years of education, with the rate of return varying with high level of education (Farrant 1964). In agriculture, evidence suggests positive effects of education on productivity among farmers using modern technologies but less impact as might be expected, among those using traditional methods. According to Lucas (1998), the higher the level of education of the work force the higher the overall productivity of capital because the more educated are likely to innovate and thus affect everyone's productivity. In order model a similar externality is generated as the increased education of individuals raises not only their own productivity but also that of others with whom they interact so that total productivity increases as the average level of education rises (Perotti, 1993).

The aim of any educational institution is to produce students with the necessary skills, prerequisite knowledge and the relevant technology to understand and become useful to the community and contribute to the development of the community and the nation as a whole. It implies that scientific and the technological development must be taken into consideration. According to Edward (1975) the goal of all science education is to develop scientifically literate and

personally concerned citizens who are able to think and act nationally. Sapire and Nitzburg (1975) explain that, one of the prime objectives of science education is to help children develop concept and conceptual schemes that will help them understand and interpret their environment.

### **PURPOSE OF THE STUDY**

The purpose of this study is an attempt to carry out in-depth study to unearth the attitude of teachers towards teaching of integrated science in ten (10) selected Junior High Schools in Cape Coast Metropolis in the central region of Ghana. It focuses attention on the attitudes of teachers when teaching integrated science, the teachers' academic and professional qualification is considered. Again, the researcher wishes to find out other relevant teaching methodologies as prescribed by the science syllabus are followed and also other the teachers use appropriate educational materials in teaching integrated science. Finally, the problems associated with the subject and the problems teachers face in the teaching of science are identified and appropriate solutions are suggested.

### **RESEARCH QUESTIONS**

To obtain a solution to the research problem, the research question that the study sought to provide an answer to was: what is the attitude of JHS science teachers towards the teaching of integrated science?

### **CONCEPT OF ATTITUDE**

Attitude is an important concept in human behavior and according to Ayodele (2000) the concept attitude has had more definitions than many other concepts in social psychology. It can be regarded as the description of how people about other people, places, events, things or ideas (Wallace 2004). Attitude strongly affects how people perceive and respond to other people, events and ideas. It is belief that a person's attitude determines his or her behavior. An attitude is a learned, stable and relatively enduring evaluation of person, object or idea that can affect an individual's behavior (Brown 1982). This definition makes several points, first people are not born with the attitude they have, they acquire them through experience. Second, attitudes tend to be stable and relatively enduring, they tend not change easily. Third, attitudes are evaluative; they are means by which people judge things positively or negatively and in varying degrees. Finally attitudes can influence behavior such as when they cause people to act, to vote, protest, work, and make friends as a result of their attitudes (Ajaja, 2010). Psychologists view attitudes as having cognitive, behavioral and affective components. Your attitude toward someone or something depends on what you think and feel about the person or thing as well as on how you act toward the person or thing based on your thoughts and feelings (Reed 1961). Attitude according to Dondieu (2000), is one of the basic outlook and how something is. He emphasized that there are two general distinctions for attitude-positive and negative. People with positive attitudes tend to be enthusiastic, cheerful, outgoing, exciting, worthwhile and enjoyable. Negative attitudes on the other hand deal with complains, often in angry manner, withdrawal, unhappy much of time and do not seem to like other people. The implication is that teachers attitude towards the teaching of integrated science may be positive or negative (Wagler, 2010). The aim of this study is to measure the attitude of teachers towards the teaching of integrated science in JHS.

## **TEACHING METHODS**

Koran and Baker (1979) from their study have indicated that field experience is good to arouse students interest and sustain their interest in science lesson. Also Reed (1961) found out in the study conducted that teacher variable of utilization of instruction is motivated and warmth is positively related with pupils' interest in science. Indirect teacher influence encourages students participation in the classroom activities and increases freedom of action. One of the first and perhaps one of the most long lasting impacts from international science education has been the child centered approach resulting from a reaction to the mainly didactic, chalk to chalk approach previously accepted as the sole method of teaching science. Child centered approaches are operationalized as discovery learning. The activity method of teaching science at the basic levels seeks to forge linkage between existing ideas and new experiences, testing the formal against the evidence of these new experiences and situations (Anderson, 2006). The central theme of this mode of learning according to Collision (1973) is that when a learner investigates with structured materials at his pace with no pre-defined goals, then the content learned becomes more meaningful. Bruner claims also that, such learning procedure generate self motivation and satisfaction, foster deeper understanding of the content learned and aids children to develop their own strategies for the selection of the organization of information.

## **RESOURCES AND MATERIALS**

Teaching learning materials (resources) are the materials and equipment as well as the personnel that facilitate effective teaching and learning in the classroom. According to Dondieu (2000) the success of teaching and learning depends to a large extent on judicious use of resources. To Aggarwal (2005), text books are one of the important tools for learning among students. Some of the teaching resources to be considered in this study are library facilities, laboratories and textbooks. Farrant lamented over limited use of resources in schools when he states that "lack of suitable teaching materials and accommodation reduces the effectiveness of a good deal of the teaching that go in our classroom". A library is a building, room or organization which has a collection especially of books for people to read or borrow usually without payment (Cambridge international dictionary of English 1995). Libraries are classified based on the functions or roles they play in wherever they are sited. The most familiar types of libraries are the National, public and school libraries. Students and teachers can make use of the different types of libraries mentioned but more importantly the school library. The school library is an organized collection of books and other learning materials placed in school or college for the use by teachers and students. To Slavin (1984) the science library should be in the laboratory or at a convenient point of easy access from the laboratories. This enhances the teacher to have easy access to integrated science books and syllabus for reading, reference and preparation of lesson notes. Books that should be selected for science library should have good background information in science. Current instructional materials including textbooks, journals and supplementary readers need to be provided for effective science education. The integrated science textbooks should be made available in all basic schools for effective teaching and learning to help build a strong foundation for higher levels.

## **METHODOLOGY**

### **THE RESEARCH DESIGN**

The study is mainly aimed at examining attitude of science teachers toward the teaching of integrated science in JHS in Cape Coast Metropolis. The research design to be used in this study is

descriptive survey sample population in order to discover the incidence, distribution and the interrelationship among logical psychological and educational variables. The data gathered in the survey are usually responses to predetermine questions that require sample responds. According to Robert (1994) a descriptive survey also determines and reports current scientific and social issues. The design was adopted because the study attempts to investigate attitude of teachers towards the teaching of integrated science at the JHS level. The descriptive survey method helps the researcher to draw meaningful conclusion from the study. It is very effective as it efficiently elicit from respondents the required information. Again, the survey method gives the respondents more privacy in responding. Finally, this method investigates phenomena in their natural settings, there are not controls as an experimental research.

### **POPULATION AND SAMPLING PROCEDURE**

According to Sylvia (1997) a population is all the members of the same species that inhabit a particular area. Statistical population is the assemblage comprising the totality of all individuals, or object without a single exception, exhibiting all the relevant attribute of interest. Thus all the members of a population must possess that specific complement of properties been studied in a research problem of investigation. The target population in a research is the actual population a researcher would like to use in order to generalize the results of the study. In this study, the target populations are all teachers in the JHS in Cape Coast Metropolis. Ten (10) schools were chosen for the study and accessible population were twenty-five (25) teachers teaching integrated science in the selected schools. The 25 science teachers were chosen based on purposive sampling technique. A representative sample is a miniature of the population at least with respect to the characteristics under investigation. Selections of the schools were done using random sampling. Two types of sampling methods, one was used for this research thus sampling by replacement and sampling without replacement. Sampling with replacement is done to maintain total population and this gives opportunity for each member to be selected. Sampling without replacement reduces the total number of population and this gives opportunity to those that are left to be selected or picked. In this research, sampling with replacement was used with the help of the supervisor. The names of all the JHS were numbered each on a square sheet of paper from 1-57 and each paper was folded. The folded papers were put in a container and were shaken, the papers were picked at random one after the other and the school selected was noted until the required ten (10) schools attained. Twenty-five (25) science teachers in the selected schools teaching integrated science formed the accessible population.

### **SAMPLE**

Individuals in the sample are selected in such a way that each one has equal chance of being selected in a process known as randomization. The sample consisted of at least two science teachers from each school selected, making a total of 25 science teachers. These were teachers between the ages of 21-32 who taught integrated science in the selected JHS.

### **RESEARCH INSTRUMENT**

The main instrument used for data collection was questionnaire. The questionnaire was administered to the selected science teachers in the 10 respective JHS, the questionnaire was used due to the fact that it is effective and efficient way of collecting background information than

interview. The researcher designed the questionnaire. It has two sections, the first section deals with the personal data of the respondents and the second section is designed to elicit information in order to answer the research question proposed for this study. The questionnaires were to elicit information about the attitude of science teachers towards the teaching of integrated science in JHS. The items covered background information about the respondent resources available for teaching, methods used in teaching, constraints facing the teacher. Twenty-eight (28) questionnaire items were made for the teachers.

### **ACADEMIC QUALIFICATION**

The academic qualification of the integrated science teachers were included because it was the assumption of the researcher that with or without needed relevant qualification it can affect the teaching of integrated science. Therefore, item three on the questionnaire sought to find the academic qualifications of the respondents.

Table 1: Academic qualification of respondents

Qualification	Frequency	Percentage (%)
Cert "A" or post sec.	16	64.0
Degree	7	28.0
Others (specify)	2	8.0
Total	25	100.0

Table 1 shows that out of the 25 respondents who returned the questionnaire, 16 (64%) were holding cert "A", 7 (28%) were degree holders while 2 (8%) other certificates. From the table, it is clear that about 8% of the integrated science teachers at the JHS were not trained to handle the subject. The analysis above clearly affirms Grimmitt's (1979) assertion that in many of our schools very little emphasis has been placed on a teacher's professional training in integrated science.

### **METHODOLOGY OF TEACHING**

Teaching involves implementing strategies designed to lead learners to the attainment of certain goals. A teaching model or method, has a theoretical or philosophy behind it, and encompasses a set of specific teaching steps designed to accomplish desired educational outcomes (Slavin 1984). It should be noted that the integrated syllabus has prescribed the various methodologies, which should be employed in the teaching of the subject. Therefore, one of the items on questionnaire was meant to find out whether relevant teaching methodologies as prescribed by integrated science syllabus are

by integrated science teachers. In response to item 18 which asked the respondents’, which of the following methodologies prescribed by the integrated science syllables do you employ in teaching integrated science? (a) Lecturette, (b) Demonstration, (c) Field trips, (d) Role play, (e) Discussion and (f) others (specify). The responses indicated that out of twenty-five (25) respondents, 4 (16%) said they used lecturette and demonstration while 4 (16%) used lecturette and decision in their teaching of integrated science. Again, a greater number of the teachers, 9 (36%) used demonstration and discussion which are most favored methods in the teaching of integrated science. For example, the discussion method which is used by almost all the teachers are highly recommendable since it gives pupils the opportunity to ask pertinent questions, express their thought, and also engage in critical and reflective dialogue (Adodo & Gbore, 2012). Such skills are essential in giving the learners the autonomy to decide for themselves. This confirms Brown (1982) suggestion that the method of education must enable learners to have knowledge and understanding and some sort of cognitive perspective, which is not inert and therefore rules out some procedure or methods of transmission because they lack willingness and voluntariness on the part of the learner. In the lecture and demonstration, the teacher makes an increasing use of materials such as realia, diagrams and charts to illustrate issues raised in the delivery (Matos & Nunes, 2018).

Table 2: Teachers response to methodologies prescribed by the integrated science syllabus

Methodologies	Frequency	Percentage (%)
Lecture & demonstration	4	16.0
Lecture & field trips	2	8.0
Lecture & discussion	4	16.0
Demonstration & field trips	2	8.0
Demonstration & role play	1	4.0
Demonstration & discussion	9	36.0
Field trips & role play	1	4.0
Field trips & discussion	1	4.0
Role play & discussion	1	4.0
Total	25	100.0

ASSESSMENT USED TO ASSESS PUPILS

Table 3: Respondents on assessment used on students

Types of Assessment	Frequency	Percentage (%)
Formal testing & homework / assignment	15	60.0
Formal testing & project	2	8.0
Homework / assignment & project	3	12.0
Formal testing, homework / assignment & project	5	20.0
Total	25	100.0

Assessment is a process of collecting data for the purpose of making decisions about individuals (Appiah 2006). When information is received the teacher can use it to place students in the next class, organize remedial for weak ones and for counseling. From the table, 15 of the respondents representing 60% made used of formal testing and homework, 8% used formal testing and project assessment, 12% used homework and project while 5 of them representing 20% made used of formal testing, homework and project. Homework consists of work assigned to students by teachers to be done outside of school (Gage 1992). It improves students’ performance and understanding of a concepts or topics. In JHS the homework tends to raise average student’s achievement to a level exceeding that of 69% of the no homework students. It can have good effects on study habit especially if is easy enough to let students feel successful with it (Gage1992). Assessment is done to evaluate students achievement, to determine student’s learning potential, to evaluate whether the goals of students’ individualized educational plans have been reached, to identify students learning disabilities and to compare the effectiveness of different special education techniques and materials (Herbert 1995). Finally, the assessment used by teachers covered affective, cognitive and psychomotor domains. When teachers are planning for instructional objectives, they consider these domains. Cognitive domains involve intellectuals operations from the lowest level of simple recall of information to complex, high-level thinking processes. Affective domains involve feelings, emotions, attitudes and values and ranges from the lower levels of acquisitions to the highest level of internalization and action. Also, psychomotor domain ranges from the simple manipulation of materials to the communication of ideas, and finally to the highest level of creative performance.

**TEACHING LEARNING MATERIALS**

For the teaching of integrated science to be effective to some extent will depend on the use of appropriate teaching and learning materials and resource persons (Education, 2010). Therefore, item

15 and 16 on the questionnaires sought to find out whether integrated science teachers employ appropriate instructional aids resource persons in the teaching of the subject. The outcome of the research shows 20 (80%) make use of instructional aids and resource persons while 5 (20%) do not use appropriate instructional aids. The research also reveals that there are not enough science textbooks in the schools the researcher visited. The analysis clearly demonstrates that teaching aids and the use of resource persons are very important for the teaching of integrated science for learners to understand the concept taught. The use of teaching aids stimulates pupil's interest, promote memory of what is learnt and save the time used by the teacher for lengthy verbal explanation in teaching (Dondieu 2000). Also, outstanding good teaching materials are not a copper-bottom guarantee of good teaching, but they do to improve the teacher's confidence and they tend to be an area of work that pupils comment on, whether adversely or with praise. However, well designed learning resource materials may be the learning payoff which pupils derive is only as good as that the briefings which must be given to pupils about how best to get what they need from the materials (Packard and Race 2002).

Table 4: teachers' response to teaching learning materials

TLM	Frequency	Percentage (%)
Yes	20	80.0
No	5	20.0
Total	25	100.0

### **PROBLEMS ASSOCIATED WITH THE TEACHING OF INTERGRATED SCIENCE**

Item 28 that was the last on the questionnaire sought out the problems that integrated science teachers face in the teaching of the subject. Various problems were identified. The most common problem, which almost all the 25 respondents mentioned was the unavailability of science textbooks in their schools. Other problems identified were inadequate teaching learning materials, inadequate in-service training, too much broad topic in the syllabus, too large class size and inadequate time for integrated science lessons (Journal, 2004). From the point mentioned, it is obvious that the teaching of integrated science is bedeviled with numerous problems, which immediate solutions need to be found (Singh and Gopal, 2004). Finally, they said the problem of language barrier made teaching very difficult.

### **CONCLUSION**

Based upon the analysis and discussion of the result from the study, the following conclusion could be made. Firstly, the study revealed that the schools lack professionals integrated science teachers. Trained integrated science teachers are non- existing in the region and the country at large. There are not enough materials, models and equipment in the schools to carry out science practical and

demonstration lessons to enhance effective teaching and learning at the JHS in Metropolis used for the study. Materials are very important in motivating students to learn, the inadequate teaching aids make student ill- prepared for lessons. Finally, the teacher's academic qualifications and their inability to use appropriate teaching methodologies as presented by the syllabus are also important contributed factor to teacher's negative attitude towards the teaching of integrated science.

### **SUGGESTIONS AND RECOMMENDATIONS**

Science education is very necessary in our present day world since the world is fast advancing and even changing at a terrific speed. In view of the findings of the study, the researcher has recommended the following suggestions:

1. More teachers should be trained in science at the training college levels
2. More JHS should be built at the community so that large class size in the schools will be reduced.
3. Members of the community should be educated on the values and benefits of science in order to support the school in their science programs. Parents- Teachers Association (PTA), Religious bodies and individuals who are capable can be approached for assistance.
4. Science teachers needs to educated well both at pre- service and in- service training, seminars and workshops. This will help them to know the type of methodologies and teaching techniques that should be adopted in the science teaching.
5. Government and curriculum developers should try and device a science curriculum for Junior high schools which will relate to relevant contemporary issues of society and of the world at large.

The researcher at this juncture wishes to state that what has been presented in this report is not exhaustive in as far as issues relating to integrated science are concerned. The scope of this study was limited to 25 science teachers teaching integrated science in 10 selected schools in the Central region would subsequently be researched into, to cover a representative sample of the country. This would offer a more valid and concrete information which then can serve as the basis for further improving factors that can help teachers to adopt right or positive attitude towards the teaching of integrated science in junior high schools.

### **REFERENCES**

- Adodo, S. O., & Gbore, L. O. (2012). *Prediction of attitude and interest of science students of different ability on their academic performance in basic science*. 4(June), 68–72.  
<https://doi.org/10.5897/IJPC10.049>
- Ajaja, O. P. (2010). *Effects of Cooperative Learning Strategy on Junior Secondary School Students Achievement in Integrated Science*. 14(1), 1–18.
- Anderson, I. K. (2006). *The Relevance of Science Education As seen by Pupils in Ghanaian Junior Secondary Schools*. November.
- Education, T. (2010). *A NEEDS ASSESSMENT SURVEY TO INVESTIGATE PRE-SERVICE TEACHERS ' KNOWLEDGE , EXPERIENCES AND PERCEPTIONS ABOUT PREPARATION TO*. 9(1), 13–22.
- Journal, E. (2004). *Electronic Journal of Literacy through Science, Volume 3, 2004 1. 3*, 1–17.
- Matos, V., & Nunes, D. (2018). *Learning to learn – using self-awareness of learning styles to*

- promote language learning Inglês no 1º Ciclo do Ensino Básico. I.*
- Wagler, R. (2010). *The association between preservice elementary teacher animal attitude and likelihood of animal incorporation in future science curriculum.* 5(3), 353–375.
- Wagler, R., & Wagler, A. (2011). *Arthropods : Attitude and incorporation in preservice elementary teachers.* 6(3), 229–250.
- Agarwal (2005), Teacher and Education In a Developing Society, Fourth Edition, Vikas Publishing House PVT Ltd, New Delhi, page 397-403
- Andrew B. C, George R. Goetal, Robert D. Kavanaugh, Paul R. Solomon (1993) Psychology. Fourth edition, Harper Collins College Publishers page 41, 432, 433, 503
- Appiah J.Y (2006), The Practice of Effective Teaching, Second Edition, Yaci Publications, Cape Coast, page 13-17
- Ayodele O.O. (2000), Introduction To Research Methods In Educations And Social Sciences, Sunshine International Publication, Nigeria, pages 107, 108, 122-133.
- Brown N. (1982), Curriculum and Institution, Macmillan Education Ltd, Page 382- 386.
- Dondieu C. K. (2000), The study of education, Volume One, First Edition, A. B. S. press, Techiman, page 459 – 462.
- Edward V. Science for Elementary School, 3<sup>rd</sup> Edition, New York Macmillan publisher's page 20.
- Farrant J. S (1964), Principles And Practice Of Education, New Edition, Longman Singapore Publishers Pte Ltd, Pages 186-197.
- Gage N.L, David C.B (1992), Educational psychology, 5<sup>th</sup> Edition, Houghton Mifflin Company, U. S. A, page 451 -453.
- Grimmit M. (1976), What Can I Do In Science , Mayhew. MC Crimmon Great wakering, page 30.
- Herbert G. (1995), Special Needs In Diverse Society, Printed in U. S. A., Congress Cataloging-In- Publication Data, page 288-292.
- Koran J.J and Baker D. ( 1979), Evaluating the effectiveness of field experience. What research says to the science teachers, Vol. 2, Washington D.C, page50-61
- Parkard N. and Race P. (200), 2000 Tips For Teachers, First Edition, Published by Vinod Vasishtha, India, page 24- 27.
- Poulson L, wallace M. (2004), Learning To Read Critically In Teaching And Learning, First Edition, Sage publication Ltd, London, page 63-65.
- Reed A.B (1961), Teachers variable warmth, demand and motivation. Journal of experimental Education, vol. 229 number 3, page 205- 207.
- Robert J. Stenberg (1994), In Search Of The Human Mind. Harcourt Brace College Publishers, USA page 504-506.
- Sapire, S.E and Nitztur A. C (1973), Children with Learning Problems, New York, Brunner and Mazel publisher' page 5-6
- Slavin R.E (1984), Research Methods in Education. A practical guide, prentice- Hall, Inc. Englewood cliffs page 204-209
- Sylvia S. M (1997), Inquiry into Life, 8<sup>th</sup> Edition WCB McGraw Hill, USA page 9, 524, 642.