Effect of Study Skills Counseling on the Learning Outcomes among Nursing Students in Selected Schools of Nursing in North Western Nigeria

Jafaru Yahaya

Department of Nursing Science, College of Health Sciences, Federal University Birnin-kebbi, Kebbi State, Nigeria

ABSTRACT

Study skills Counseling is an act of helping students cope with problem of studying in the school through interviews, and discussion, with the aim of assisting them to achieve good grade. Study skills are approaches applied to learning. They are generally critical to success in school, considered essential for acquiring good grades, and useful for learning throughout one's life. The study design was quasi–experimental that used pre-test and post-test in control and experimental groups. Simple random sampling was used in selecting four out of ten public State and Federal schools. Purposive sampling was used in selecting total population of first and second year students of the schools selected as a sample of the study. The average scores of schools examinations of the year 2013 of each student involved in the study were used. This involved the examination results before and after the intervention. The intervention of study skills counseling was given. Student t-test was used in answering the research hypotheses. There was no significant difference in learning outcomes between the experimental and control group pre-intervention. The t-value was -1.356 and significant level was 0.061. P>0.05. There was significant difference in learning outcomes between experimental and control group post-intervention. t–value was -7.863 and the significant level was 0.000, P< 0.05. Findings of this research show study skills counseling has an effect on the learning outcomes of nursing students.

Key words: counseling, effect, learning outcomes, nursing student, study skills

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

International Journal of Research in Medical and Basic Sciences (IJRMS)

http://www.mbsresearch.com email id- irjmss@gmail.com   Page 1

INTRODUCTION

The push to greater accountability puts pressure on administrators, teachers and counselors to be involved in the process of increasing students' performance, reducing the achievement gap, improving school attendance and graduation rates, and ensuring adequate levels of safety within school systems (Webb, 2005). There is a need to consider the evidence that addresses the question of whether school counselors have a significant impact on students in order to guide policy decisions on the provision of quality, comprehensive school counseling programs. New vision school counseling requires a belief in the capacity of all students to obtain high levels of academic achievement, positive learning outcomes and meaningful futures in a global economy and technologically advanced world. New vision school counselors engage in systemic leadership, advocacy, collaboration, counseling, coordination, assessment, and data analysis. Serving as social action agents, new vision school counselors identify and remove inequities and other barriers to positive learning outcomes (Wendy et al., 2005).

Study skills are approaches applied to learning. They are generally critical to success in school, considered essential for acquiring good grades, and useful for learning throughout one's life. There are arrays of study skills, which may tackle the process of organizing and taking in new information, retaining information, or dealing with assessments. They include mnemonics, which aid the retention of lists of information, effective reading, and concentration techniques, as well as efficient note taking (Educational Resources Information Center, 2014). Study skills Counseling is an act of helping students cope with problem of studying in the school through interviews, and discussion, with the aim of assisting them to achieve good grade. Professional school counselors ideally implement a school counseling program that promotes and enhances student achievement (Abid, 2006).

Counseling is a service designed to help an individual analyze himself by relating his capabilities, achievements and interests and mode of adjustment to what new decision he has to made. Counseling is the skills of helping people cope with personal difficulties through interviews and other procedures, with the aim of assisting them arrive at solutions through those interviews and other procedures. From a close study of the various definitions, one can say that the term covers a wide spectrum of therapeutic activity, from a practical advice given during one or two meetings to a sympathetic attention over months or years (Mankinde, 1990).

School counselors have historically been trained as mental health providers rather than as student advocates, school leaders, and empirical researchers. This trend is slowly changing however,

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

International Journal of Research in Medical and Basic Sciences (IJRMS)

http://www.mbsresearch.com email id- irjmss@gmail.com   Page 2

and counselors are beginning to gain the necessary training to develop these skills. Many counseling programs are still operating under a student services model. The focus of counselors' work is related to career planning and placement, problem solving, and class scheduling (Wendy et al., 2005). School counselors are gaining the necessary training to expand their services to provide a broader impact on students' academic, career as well as personal and social domains (Webb, 2005). Their services and programs help students resolve emotional, social or behavioral problems and help them develop a clearer focus or sense of direction. School counseling has great potential to help students achieve high standards in the academic, career and personal/social aspects of their lives.

Quality of education is reflected through learning outcomes which is a function of study habits and study attitude of the students. Thus to enhance the quality of education, it is necessary to improve the study habits and study attitudes of the students. To improve study habits and study attitude, those factors are needed to be identified which affect these characteristics adversely. Identification of these factors may lead towards remedial measures. To identify factors having negative effect on study habits and study attitudes, to propose remedial measures and to employ strategies for the development of good study habits and study attitudes, well organized guidance services are needed in schools (Abid, 2006). The aim of this research was to find out the effect of study skills counseling on the learning outcomes among nursing students in selected schools of nursing in north western Nigeria.

Meaning of counseling

Counseling is the central aspect of the whole guidance program. All the activities and Services of the guidance program leads to and help in the Counseling process. Counseling is aimed at helping the individual in solving problems in future and also enhancing personal, social, emotional, educational and vocational development. Counseling has Remedial, Preventive and Developmental value. Counseling is helping a person to come to see who he really is, what he has and does not have, what he can do easily, what he can do with difficulty and what he cannot do at all. It is a close sharing of a human relationship with one who has for him a high regard; one who can offer him unconditional acceptance, but one who has no guarantees, no answers (Gibson and Mitchell, 2005).

Counseling is an interaction process which facilitates meaningful understanding of self and environment and result in the establishment and or clarification of goals and values for future behavior. Counseling is an accepting, trusting and safe relationship in which clients learn to discuss openly what worries and upsets them, to define precise behavior goals, to acquire the essential social skills and to

develop the courage and self confidence to implement desired new behavior. Counseling is a process by which a troubled person (client) is helped to tell and behave in a more personally satisfying manner through interaction with an uninvolved person (counselor) who provides information and reactions which stimulate the client to develop behavior which enable him to deal more effectively with himself and his environment (Gibson and Mitchell, 2005).

Counseling is the skilled and principled use of relationship to facilitate self- knowledge, emotional acceptance and growth and the optimal development of personal resources. The overall aim is to provide an opportunity to work towards living more satisfyingly and resourcefully. Counseling relationships will vary according to need but may be concerned with developmental issues, addressing and resolving specific problems, making decisions, coping with crisis, developing personal insights and knowledge, working through feelings of inner conflict or improving relationships with others. The counselor's role is to facilitate the clients work in ways that respect the client's values, personal resources and capacity for self-determination (Gladding, 2004). Counseling is the application of mental health, psychological or human development principles, through cognitive, affective, behavioral or systemic interventions, strategies that address wellness, personal growth, or career development, as well as pathology.

Counseling constitutes three activities (Adhukar, 2005).

A- Information

B- Advising and

C- Counseling

Informing:

Here the role of the counselor is to give appropriate and correct information to the clients. For example you are a student and you need counseling to select your course for the future. Here the role of the counselor is to give you information about the availability of different courses & its future prospects.

Advising:

In this stage the counselor suggests appropriate courses of action. Here the counselor will offer you several options and recommends one according to your aim or interest. For example if your aim is to be an engineer, the counselor will suggest you a course related to applied mathematics.

Counseling:

In this stage the counselor helps the students to clarify his needs, feeling or motivations so that he can make the appropriate decision for himself. For example if you will tell you have no aim or you cannot decide what you will do in the future. So the counselor will ask you if you are not sure about what to do in future but you must want to do something interesting so describe about your idea. Like this the counselor can motivate you to find out your idea & can recommend you the course according to your interest. So counseling is student dependent rather than knowledge dependent. As a counselor or a person needs skill rather than knowledge it needs high level of interpersonal skills. So counseling is a process which constitutes information, advising and counseling. You can think of these three activities as a continuous spectrum of areas which merge into each other.

Types of counseling

Individual counseling:

Individual counseling includes school counselor led services to assist students who face problems that can interfere with their personal, social, academic or career development (American School Counselor Association ASCA, 2005) and can consist of only one session or several on-going sessions (Newsome and Gladding, 2007; Whiston and Quinby, 2009). These responsive services are delivered in individual counseling settings, generally in a counselor's office or other designated space (Clark and Breman, 2009). and primarily concentrate on students' immediate problems or needs(ASCA, 2005) where a confidential relationship with close emotional contact is developed (Newsome and Gladding, 2007; Whiston and Quinby, 2009). The focus in individual counseling sessions is on the student concern, and goals are developed to help the student make positive changes with regards coping mechanisms, how the student adapts to the situation of concern, or how the student behaves (Newsome and Gladding, 2007; Whiston and Quinby, 2009). Individual student planning, which involves assisting students with career exploration, academic and personal and social issues and development (Aluede et al., 2007), can also be considered to be a component of individual counseling services and

consists of professional school counselors systemically developing personal goals and future plan development with the student (ASCA, 2005)

Small Group Counseling:

Group counseling has been identified by ASCA as an important direct service which targets the three domains set forth in the framework for comprehensive developmental school counseling programs (ASCA, 2005; Webb and Brigman, 2007). which is effective in meeting the personal/social and academic needs of students Cook and Kaffenberger, 2003). Small group counseling interventions may be used with students who are experiencing stressors in their personal lives or have academic concerns (Steen and Bemak, 2008). These small groups allow school counselors to work with students with identified academic and social needs beyond what teachers or counselors can provide in a classroom setting (Webb and Brigman, 2007). Small group settings allow students to acquire new skills and resources to help them not only with their current issues, but may also prevent future problems (Clark and Breman, 2009). Further, when small groups are the backdrop for responsive services, school counselors have the opportunity to work with students in a confidential manner on to assist them in resolving or coping with problems or developmental concerns (Cobia and Henderson, 2007).

Large Group/Classroom Counseling:

Large group or classroom guidance is delivered through developmentally appropriate lessons that are intended to assist students in developing skill sets and gaining knowledge that will help students achieve guidance competencies found in the ASCA National Model (ASCA, 2005). Guidance lessons are included in a curriculum that is organized and takes into account the developmental stage of the students receiving the interventions in order to teach developmentally appropriate skills (Aluede et al., 2007). These interventions are targeted to all students with the end of promoting academic, career and personal/social development (Whiston and Quinby, 2009).

SQ4R method of study

SQ4R is a method of studying, not reading, a text book. Contrary to popular myth, reading material once is not enough for learning. The keys to learning are organization and repetition, both of which are included in the SQ4R method. "SQ4R" is an acronym for the steps in the method: Survey, Question, Read, Recite, Record, and Review (George Washington University, Academic Success Center, 2013).

Survey

Briefly survey the chapter. Read the authors' headings and sub-headings. Remember your main goal at this point is not to go into detail, but to develop a general idea of the structure. This will prepare you for what you are going to read and grasp a general understanding of the chapter. Read any summary that might be given. This will remind you of what is important throughout the chapter. This step helps you to get acquainted with the chapter.

Question

Think about the material as you are reading and ask yourself questions about what you read. These questions will serve to keep you more involved with what you are reading. This will keep you focused on the more important material without becoming overwhelmed by details. By asking questions, you facilitate concentration and you prepare for the test.

Read

Read carefully and try to answer the questions you have asked yourself. At this point, you will have to concentrate. Remember you read a text differently than you read a novel. A novel is read passively. Textbook reading requires more concentration and retention. Read actively with involvement, which in turn will increase your understanding of the material. If you become tired or distracted, stop reading. Remember, your job here is not to cover as many pages as possible, but to cover enough pages so that you retain what you have read, and so that you have engaged in "deeper-level reading". During this step, avoid reading aloud to yourself. Instead, read silently as this is much faster.

Recite

Recite to yourself what you have read. Recall main headings and ideas. Be sure to put ideas in your own words, as this will improve your ability to retain the material. Answer questions aloud and listen to your responses to see if they are complete and correct. If they are not correct, re-read the material and answer the question again. This form of rehearsal increases the likelihood that you will retain the material.

Record

After you have answered a question, write the answer down. Summarize the information in your own words. Restructure the information so that it makes the most sense to you. Take notes on each section as the Read and Recite steps are complete. The more organized and detailed the notes, the better for mastery of the material. Once again use your own language.

Review

Reviewing is the key to figuring out what you know and what you need to concentrate on. The best times to review are right after reading while the material is still fresh on your mind and again before the test. Try to summarize major points in the chapter and answer questions you posed to yourself while reading.

Factors affecting approaches to learning

The following factors impact on students' approaches to learning (Herington and Weaven, 2008).

Students' concepts of learning

Various factors influence the way students learn and the speed at which they learn, such as differences in intelligence, learning styles and perceptions. Learning is both a constructive and a re-constructive process. The latter means that existing knowledge is re-organised in relation to newly learned information. Effective re-construction enhances the quality of learning outputs (Meyer and Van Niekerk, 2008).

Level of students' intellectual development

The level of each student's intellectual development will depend on the student's approach to study, the study methods being used and the achievement of course objectives. The use of the taxonomies of learning outcomes by lecturers will also build on the levels of knowledge development of the student.

Students' awareness of task demands

The students understanding of what each task or project entails and the assessment criteria in order to be found competent.

Style of teaching

The approaches used by lecturers to enhance the learner's problem solving and analytical skills.

Newness and size of subject

Involves the student's active involvement in discovering the significance of contents, or situations in problem solving skills.

Workload/content

The load of the curriculum content will affect how the student will cope with the study matter which inevitably affects the approach to studying.

Degree of threat and anxiety felt by students

This will determine the approach that the student adopts to learning. A feeling of personal and academic safety, or confidence, is highly important and includes acceptance as a prerequisite for emotional maturity (Meyer and Van Niekerk, 2008).

Nature of assessment

The value of education and learning is determined through results. The assessment of learning indicates the necessity of assessing any change, development, or restructuring of learners' cognitive abilities, attitudes and knowledge. The results show themselves in the professional conduct of learners. The quality of this conduct depends, to a large extent, on the quality of education and learning (Meyer and Van Niekerk, 2008).

CONCEPTUAL FRAMEWORK

The framework for this study is based on the general theory of work performance articulated by Campbell and the application of this general theory to the learning outcomes domains. This model proposes that performance on a task is a function of three direct proximal determinants: declarative

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

International Journal of Research in Medical and Basic Sciences (IJRMS)

http://www.mbsresearch.com email id- irjmss@gmail.com   Page 9

knowledge (knowledge of facts and procedures), procedural knowledge (the skill to do what is required in a situation), and motivation (the willingness to engage in and sustain a high level of effort in completing the task). The model is also characterized by a series of indirect and more distal determinants: cognitive ability; interests and personality; and education, training, and experience. The effects of these distal determinants on performance are fully mediated by the three direct determinants (Kuncel et al. 2001, Kuncel et al., 2004).

In other words, effective performance on a dimension of student learning outcomes is directly a function of task-relevant knowledge and skills and the immediate willingness to engage in a high level of effort that is sustained over time. The influence of all other individual differences is mediated through knowledge, skill, and these specific motivational behaviors.
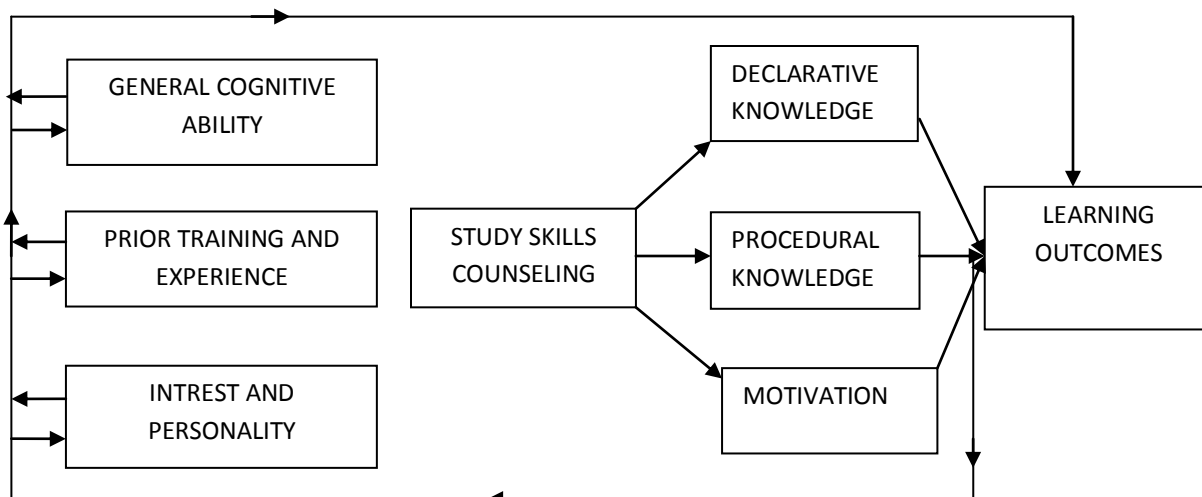

Figure 1: Conceptual framework based on application of performance theory on academic learning outcomes domains (Campbell, 1990, Kuncel et al., 2001, Kuncel et al., 2004).

METHODS

The study design was quasi–experimental that used pre test and post test in control and experimental groups. Quasi-experiment is an empirical study used to estimate the causal impact of an intervention on its target population. Quasi-experimental research designs share many similarities with the traditional experimental design or randomized controlled trial, but they specifically lack the element of random assignment to treatment or control. Instead, quasi-experimental designs typically allow the researcher to control the assignment to the treatment condition, but using some criterion other than

random assignment. In some cases, the researcher may have no control over assignment to treatment condition (Dinardo, 2008). Simple random sampling was used in selecting four out of ten public State and Federal schools of nursing of north western Nigeria. Simple random sampling was also used in selecting School of Nursing Sokoto and Usman Danfodiyo University Teaching Hospital School of Nursing as experimental group, while School of Nursing Katsina and School of Nursing Birnin Kebbi were selected as control group. A simple random sampling is a sampling in which sample size n is drawn from a population of size N in such a way that every possible sample of size n has the same chance of being selected (Yates et al., 2008). Purposive sampling was used in selecting total population of first and second year students of the schools selected as a sample of the study. In purposive sampling the researcher chooses the sample based on who the researcher think would be appropriate for the study. This is used primarily when there are a limited number of people that have expertise in the area being researched (Lucas, 2012).

The average scores of schools examination of each student involved in the study were collected from the examination offices of the selected schools. This involved the examination results before and after the intervention, that is first semester and second semester examinations of the year 2013. The intervention of study skills counseling was given after the first semester examination (pretest), and six months before the second semester examination (posttest). The study skill counseling was based on SQ4R study technique, and the assistance of schools counselors was sought in planning and conducting the counseling sessions. The counseling was group counseling and two sessions were carried out with each group and time for questions and contributions were given to the students. All questions were answered, misconceptions cleared during the counseling sessions. Student t-test was used in answering the research hypotheses. The data was analyzed using SPSS statistical package version 17.

ETHICAL CONSIDERATION

Ethical approval was collected from Sokoto State Health Research Ethical Committee. Permission to conduct the research was taken from the principals of the selected schools. Students were voluntarily involved in the research and the information collected was treated as confidential. The subjects were made to know what the study was all about the benefit they could derive from it and the right to withdraw from the study at any time whenever they wish.

RESULTS

Hypothesis I: There is no significant difference in the learning outcomes between experimental and control group pre-intervention.

Table 1: Independent t-test on mean scores of pretest results between experimental and control group (pre-intervention)

	Groups	N	Mean	Std. deviation	Std. error mean	t-calculated	Significant level
Pretest result	Control	157	56.43	3.174	0.296	-1.356	0.061
	Experimental	180	56.16	3.155	0.289		

Table 1 shows the mean score of experimental group in pretest examination was 56.26 and that of control group was 56.13, with the standard deviation of 3.155 and 3.174 respectively; t-calculated was -1.356 at 0.061 significant level.

Hypothesis II: There is no significant difference in the learning outcomes between experimental and control group post-intervention.

Table 2: Independent t-test on Mean Scores of Post Test Results Between Experimental and Control Group (post-intervention)

Group	N	Mean	Std. Deviation	Std. Error Mean	t – calculated	Significant Level
Control Group	157	55.69	3.705	0.296	-7.863	0.000
Experimental Group	180	58.72	3.378	0.252		

Table 2 shows the mean score of learning outcomes in post test examination was 58.72 in experimental group and 55.69 in control group, with standard deviation of 0.252 and 0.296 respectively; t-calculated - 7.863 at significant level of 0.000

DISCUSSION

Table 1 shows that there was no significant difference in learning outcomes between the experimental and control group pre-intervention. The t-value is -1.356 and significant level is 0.061. Therefore there was no significant difference in learning outcomes between experimental and control groups pre-intervention, at P>0.05. The experimental and control group have not significantly differ in learning outcomes before the intervention. Table 2 shows that the t–value is -7.863 and the significant level is 0.000, P< 0.05 post-intervention. Therefore there was significant difference in learning outcomes between experimental and control group post intervention. From this result, it is clear that the study skills counseling has an effect on the learning outcomes of nursing students.

The result of the study is an indicator of the importance of the methods and techniques that the students used in their study. It indicates that the study skills are greatly important in improving the learning outcomes of the students in schools of nursing. It is a pointer on the way to solve the problem of massive failures of examinations in schools of nursing. It shows that the nursing students can improve their performances when their study skills are improved. It is therefore important for the students to know that, their study skill affect their learning outcomes, and find the best methods and techniques to study. It would also help in reducing the burden of over loaded nursing curriculum.

The research findings could be useful to the policy makers concerned to find ways by which the study skills of the students can be improve in schools of nursing. This can greatly have an important effect on having a good examination results in schools. The counselors in schools of nursing can use the results in helping the students to solve the problem of examination failures and stress in the course of the study. This will help in making the students to embrace the counseling serves in the schools.

CONCLUSION

Findings of this research show that study skills counseling has an effect on the learning outcomes of the students. It is therefore recommended that:

1.   There should be school counselors and study skills counseling programs in every school of nursing.

2.   There is need to include study skills into the nursing curriculum.

3.   Importance of study skills should be emphasized to the student nurses, including how it affects the learning outcomes.

4.   Importance of school counselors and counseling programs should be emphasized to the student nurses.

5.   There is need for more research on the effect of study skills counseling on learning outcomes

REFERNCES

Abid, H (2006). Effect of Guidance Services on Study Attitudes, Study Habits and Academic Achievement of Secondary School Students. Bulletin of Education & Research.   Vol.28, No.   1, pp. 35-45

Adhukar I. (2005). Guidance & Counseling. Authors Press, N. Delhi

Aluede, O., Imonikhe, J., Afen-Akpaida, J. (2007). Towards a conceptual basis for understanding developmental guidance and counseling model. Education.   128(2), 189-   201

American School Counselor Association (2005). The ASCA national model: A framework for   school counseling programs. (2nd ed.), Alexandria, Va: Author.

Campbell, J.P. (1990). Modeling the performance prediction problem in industrial and   organizational psychology. In M.D. Dunnette & L.M. Hough (Eds.), Handbook of   industrial   and   organizational psychology. (2nd ed., Vol 1., pp. 687–732). Palo Alto,   CA: Consulting Psychologists Press.

Clark, M.A., and Breman, J. C. (2009). School counselor inclusion: A collaborative model to   provide academic and social-emotional support in the classroom setting. Journal of   Counseling   and Development. 87, 6-11.

Cobia, D.C. and Henderson, D.A. (2007). Developing an effective and accountable school counseling program (2nd ed.). Upper Saddle River, NJ: Pearson Merrill Prentice   Hall.

Cook, J. B., and Kaffenberger, C.J. (2003). Solution shop: A solution-focused counseling and studyskills program for middle school. Professional School Counseling. 7(2), 116.

Dinardo, J. (2008). "natural experiments and quasi-natural experiments". The New Palgrave Dictionary of Economics. pp. 856–859.

Educational Resources Information Center (2014).Contributions of Study Skills to Academic Competence.   ISSN   0279   6015.   Retrieved   February   5   2014.   From http://eric.ed.gov/?id=EJ667615

George   Washington   University,   Academic   Success   Center.   (2013). http://gwired.gwu.edu/counsel/asc/ retrieved February 22, 2013

Gibson, R. and Mitchell, M. (2005). Introduction to Guidance & Counseling. 6th edition,   Prentice Hall of India, N. Delhi.

Gladding, S. T. (2004). Group work: A counseling specialty. (4th ed.). Upper Saddle River,   N.J: Merril/Prentice Hall.

Herington, C. and Weaven, S. (2008). Action research and reflection on student approaches to learning in large first year university classes. The Australian Educational Researcher.45(3):111-134.

Kuncel, N.R., Hezlett, S.A., and Ones, D.S. (2001). A comprehensive meta-analysis of the predictive validity of the Graduate Record Examinations: Implications for   graduatestudent   selection   and performance. Psychological Bulletin. 127, 162–181.

Kuncel, N.R., Hezlett, S.A., and Ones, D.S. (2004). Academic performance, career potential, creativity, and job performance: Can one construct predict them all? [Special section].   Journal of Personality and Social Psychology. 86, 148–161.

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

International Journal of Research in Medical and Basic Sciences (IJRMS)

http://www.mbsresearch.com email id- irjmss@gmail.com   Page 15

Lucas, S. R. (2012). "Beyond the Existence Proof: Ontological Conditions, EpistemologicalImplications, and In-Depth Interview Research.", Quality & Quantity.doi:10.1007/s11135-012-9775-3.

Mankinde, O. (1990). Fundamentals of Guidance and Counselling. London: Macmillan publishing company.

Meyer, S.M. and Van Niekerk, S.E. (2008). Professional nurse educator in practice. Cape Town: Juta.

Newsome, D. W. and Gladding, S. T. (2007). Counseling individuals and groups in school.In B.T. Erford (Ed.), Transforming the school counseling profession. (2nd ed., pp. 168-194). Upper Saddle River, N.J.:Merril/Prentice Hall.

Steen, S., and Bemak, F. (2008). Group work with high school students at risk of school failure: A pilot study. The Journal for Specialists in Group Work. 33(4), 335-350.

Webb, L.D. (2005). Linking school counselors and student success: a replication of the student success skills approach targeting the academic and social competence of students. Professional School Counseling. 8 (5).

Webb, L.D., and Brigman, G. A. (2007). Student success skills: A structured group intervention for school counselors. The Journal for Specialists in Group Work. 32(2), 190-201.

Wendy M, John Carey and Carey D. (2005). The Current Status of School Counseling Outcome Research. Center for School Counseling Outcome Research School of Education University of Massachusetts, Amherst.

Whiston, S.C and Quinby (2009). Review of school counseling outcome research. Psychology in the Schools. 46(3) 267-272.

Yates, Daniel S.; David S. Moore; and Daren S. Starnes (2008). The Practice of Statistics. 3rd Ed. Freeman. ISBN 978-0-7167-7309-2.