International Journal of Nursing, Midwife and Health Related Cases
Vol.2, No.2, pp.26-38, September 2016
Published by European Centre for Research Training and Development UK (www.eajournals.org)

KNOWLEDGE AND APPLICATION OF REFLECTIVE PRACTICE: A TOOL FOR MEANINGFUL NURSING PRACTICE AMONG NURSES IN UNIVERSITY OF CALABAR TEACHING HOSPITAL CROSS RIVER STATE NIGERIA

Mgbekem Mary Achi[1], Ojong Idang Neji[1], Odey Lydia O[2], Lukpata Felicia E[1], Uka Victoria K[1], Ojong-Alasia Mary[3] and Chiotu Catherine N[4]

[1] Department of Nursing Science, University of Calabar, Calabar
[2] University of Calabar Teaching Hospital, Calabar
[3] Department of Nursing, Madonna University, Elele, Rivers State
[4]Nursing Service Department, University of Abuja Teaching Hospital, Abuja, Nigeria

ABSTRACT: *Background: Knowledge and professional competence depend on deeper understanding of issues to develop informed judgment and skill. Purpose This descriptive study was designed to evaluate the knowledge and application of reflective practice among nurses in University of Calabar Teaching Hospital, Calabar Nigeria. Methods: The theory of Human Caring, the Model of Structured Reflection, two research questions and one hypothesis guided the study. Two hundred and thirty eight (238) professional nurses were used as study sample. Data were obtained using self-administered questionnaires; collated data were analyzed using SPSS version 18.0 for inferential and non inferential statistics. Hypothesis was tested for significance at 0.05 level using Pearson Product Moment Correlation Coefficient. Results: Findings revealed that majority of nurses have knowledge of reflective practice based on task (41.3%) and time (32.1%) awareness 64.2% engaged in reflective practice employed. use discussion approach only. The use of reflective journals was found to be very poor among the nurses. Conclusions: The study concludes that knowledge of reflective practice provides a basic strategy for meaningful practice that facilitates professional development and promotes quality patient care based on best practice guiding principle. It was recommended that nurses be encouraged to keep reflective dairy to provide insight into clinical issues for better understanding that results in meaningful practice.*

KEYWORDS: Knowledge, application, reflective, meaningful practice, nurses

INTRODUCTION

Nursing is a practice profession that requires constant reflection on actions in the provision of care to patients. Reflection is an important novel tool essential to maintain professional development and competence that promotes nursing care decisions on the best available evidence to ensure high reliability on pro-activity, reactivity and resilience quality care for patients and families (Armola, Bourgault, Halm, Board, Bucherlin et al, 2009). Reflection is beneficial in experiential learning as it helps in developing critical thinking that enables integration of theory and practice. Collington & Hunt (2009) state that reflection offers practitioners opportunity to examine actions in practice. It is a process of learning and development through self-examination of one's professional practice including experiences, thoughts, emotions, actions and knowledge (Dube and Ducharme, 2014). Reflective practice according to Mann, Gordon and MacLeod (2009) is an essential characteristic for professional competence that helps practitioners to function in complex and changing health systems. Asselin and Cullen (2011) assert that nurses encounter many situations that trigger emotional reactions that need reflection to make informed decision. Bulma, Lathlean, Cobbi (2012) see

reflective practice as a process of searching for solutions to problems or experiences in clinical practice. Reflection is therefore a conscious, dynamic process of thinking, analyzing and learning from an experience that gives an insight into self and practices (Mann, Gordon & Macleod 2007). This new insight further helps one to respond to similar clinical situations with changed perspective.

Nursing practice is action oriented; where "doing" is given greater significance than consideration of what is being done (Madueyi, Robinson & Oduali (2010). Based on this concept of doing, reflective practice is one of the most popular theories of professional knowledge widely adopted to evaluate what is being done by nursing, health and social care professions (Kinsella, 2009, Honor Society of Nursing, 2005, Johns and Fresh Water, 2005). The rational for reflective practice is that experience alone does not necessarily lead to learning, but deliberate reflections on experience and practice is essential to develop competence that improve practice. Reflection as a concept is an active and deliberate cognitive process involving sequences of interconnected ideas that take account of underlying beliefs and knowledge (Beam, O'Brien & Neal 2010). O'Donovan (2007), Barnett & Mahoney (2006) opine that the process of reflection first internally examines and explores an issue of concern, triggered by an experience which clarifies meanings in terms of self to enable the practitioner make informed decision in a given health condition. This presupposes that reflection is associated with challenging issues in a workplace, and the urge to develop competence through testing experience. Learning by experience reflects personal interest, emotions and active examination of one's own practice to bring about self-monitoring, reflection and change (Gustafson, Fagerberg & ASP 2007, O'Donovan, 2007, Johns, 2009) as paying attention to the practical values and theories inform everyday action (Freshwater, Talor & Sherwood, 2010).

Reflective practice requires attitudes of open-mindedness, responsibility, whole heartedness, and willingness to take on challenging issues and act on criticism (Cropley, 2009). Open-mindedness according to Pollard (2005) is an active desire to listen to more ideas than one, give full attention to alternative possibilities that recognize the possibility of error even in one's beliefs. This action creates the art of being responsible. Responsibility in this context involves thinking about consequences of practice in relation to patients, self and others and taking actions to avoid or reduce errors in practice. Other skills necessary for reflective practice Akin & Schutz (2009), Palmer (2007) opined, are self awareness, description, critical analysis, synthesis and evaluation. To be self aware is to be conscious of one's character, beliefs, values, qualities, strength and weakness (Enuku & Enuku, 2013, Pollard, 2012). Other approaches for meaningful practice of reflective practice are the use of journal and diary keeping, peer groups discussions and feedback. Keeping a reflective journal (a learning journal) enables reflection through documentation of ideas, feelings, observations, vision, self-awareness and effective communication with others (Asselin & Gullen, 2011, Mann, Gordon & Macleod, 2009). The aim of journal keeping, Somerville & Keeling (2004) report is to help the reflective nurse focus on ideas that improve care delivery, organize thinking through exploration and mapping of complex issues, develop conceptual and analytical skills make sense of experiences and the process behind them (Graham & Bailey, 2007). A study conducted by Chirema, (2006) reports that although reflective practice is an important tool that leads to meaningful practice, many nurses do not use the journal or dairy approaches because they claim the process is difficult and time consuming. This report is supported by (Moon, 2004, Graham & Bailey (2007) who observed
that effective individual reflective practice is strongly associated with peer group review, constant clinical supervision and mentoring regular meeting of peer group is important as it h

elps the nurses to decides together on how to use and organize their time, discuss work related problems and share learning journal excerpts or try out a form of collective reflective practice (Peterson et al. 2008).

Ensuring professional competency involves critical thinking, a desired professional attributes and integral component of decision making ability (Mann, Gordon, and Macleod, 2009; Schutz, 2007, Benner & Tanner, 2007). In the process of learning needs assessment, Dube & Ducharme (2014) identified that nurses from all areas of care services express interest in enhancing their professional development. Enhancing nurses' professional development can be achieve through regular reflective practices. This assertion is supported by Chong, (2009) quantitative study of diploma nursing students and Dube & Ducharme (2014) qualitative study of nurses to examine their perceptions of reflective practice. These findings revealed that both students and nurses expressed development of insight to view clinical situations more rationally and have sense of responsibility and accountability in practice

Nurses in many developing countries especially Nigeria utilizes nursing process approach as a tool to provide quality and individualized patient's care. Complete reliance on nursing process alone cannot provide the knowledge and competency needed to give quality care for patients. There is therefore the need for definitive thinking strategies and practical approaches to compliment the nursing process approach to enhance nurses' ability to identify clinical issues and areas to bring about meaningful practice. Our literature search revealed paucity of information regarding reflective practice among nurses in Nigeria and UCTH in particular. The objectives of this study therefore were to: 1) assess the level of knowledge of reflective practice among nurses in UCTH as tool meaningful practice and 2) determine application approaches employ for reflective practice as an additional or alternate concept for effective and efficient care delivery measure among nurses in university of Calabar Teaching Hospital, Cross River State, Nigeria. The study also stated that there is no significant relationship between knowledge and application of reflective practice among nurses in University of Calabar Teaching Hospital.

Conceptual Framework

Two conceptual frameworks; Kolb (1975) model of reflection and John (2000) structured model of reflection are used in this study. Kolb's model of reflection is an experiential learning theory that guides learning style. Kolb states that learning involves the acquisition of abstract concepts that can be applied flexibly in a range of situations. Kolb believes that development of new concept is provided by new experience. The concept of experiential learning according Kolb's centered on the transformation of information into knowledge. He presented his experiential learning style by four stage learning cycle in which learner touches all the bases i.e. a cycle of experiencing reflective, thinking and acting. Immediate or concrete experiences leads to observation and reflection, these reflections are assimilated into abstract concepts with implication for action which the person can actively test and experiment with which in turn enables the creation of new experience.

Kolb's four stages of learning cycles

1. Concrete experience: This occurs when a new experience of situation is encountered or a re-interpretation of existing experience showed up.

2. Reflective observation of the new experience: This involves reflection observation of the new experience of particular importance and any inconsistencies between experience and understanding.

3. Abstract conceptualization: Here reflection gives rise to a new idea, or a modification of an existing abstract concept.

4. Active experimentation: Here the learner applies the new ideas to the world around them to see what results. To Kolb, effective learning is seen when a person progresses through a cycle of four stages mentioned above. The last stage is used to test hypothesis in future situations, and results in new experiences.

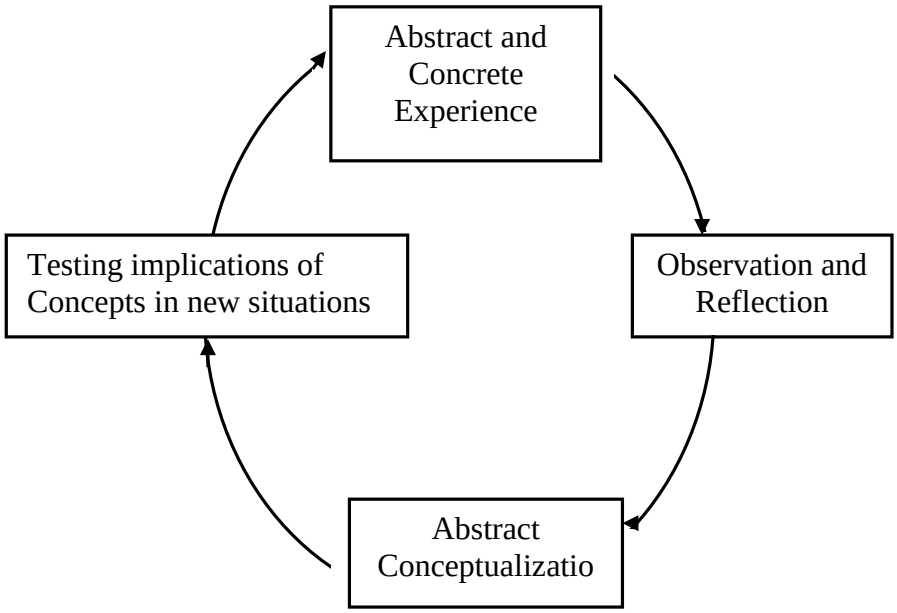

Figure 1: Kolb's Experiential Model of Learning, adopted from advanced journal of nursing.

Kolb's experiential learning refers to the organization and construction of learning from observations produced in a practical situation, with the implication that learning can lead to action or improve action (Cropley, 2009). Experiential learning can also be viewed as a program for re-creating personal lives and social systems using the Kolb's cycle.

Model of Structured Reflection (John, 2000)

This model was developed for nursing practitioners as a technique useful in the early stages of learning how to reflect. It has two main areas for consideration: "Looking in and looking out" which are regarded as ways of challenging one's natural tendency to judge self. Listening to oneself helps to gain wisdom and connect with truth. This leads to: rational examination of assumptions, action based on the question: what am I doing wrong, focus on presuppositions that relate to a problem, and communication with self.

Table 1: Model of Structured Reflection (John, 2000)

Area for consideration	Practitioner guide to gain greater understanding
Looking in	➢ Focus on self ➢ Pay attention to self thoughts and emotions ➢ Write down thoughts and emotions
Looking out	➢ Consider a situation and write its description ➢ What issues seem significant ➢ Aesthetics i. What is the purpose of this reflection ii. Why responds to it? iii. What are the consequences for self and others? iv. How will others feel about it and how this arrived at? ➢ Personal – How is the feeling towards the situation? ➢ Ethics i. What factors influenced the feelings? ii. What knowledge influenced the reflection? ➢ Reflexivity i. Does this situation relate to any previous experience? ii. How can the situation be handled to make a difference? iii. Are there alternative options? iv. What are the feelings towards this experience? v. How can self and others be supported in the future

Application of the Model to the study

Reflective practice can be viewed as unstructured or semi-structured approach directing learning, and a self-regulated process foundation for meaningful nursing practice that allows for feelings of satisfaction and empowerment. It is a critical nursing skill with the potential for enormous benefit as it helps the nurse to understand problems, issues, and concepts. Thus make meanings, patterns, and purpose clear. Reflective practice can guide nursing practice to improve outcomes, because a strong sense of self enables one to deal with problems better (Elder, Evans, & Nizette, 2009, p. 6). Reflective practice has the benefits of increasing self-awareness, a key component of emotional intelligence, and in developing a better understanding of others. Nurse professional communicate constantly both in verbal and non verbal ways, reflective practice will enhance their abilities to communicate and make informed and balanced decisions.

METHOD

This descriptive study was carried out using a self-administered questionnaire to determine nurses' knowledge and application of reflective practice to achieve quality care in University of Calabar Teaching Hospital (UCTH), Cross River State. Using Taro Yamane's formula, a sample size of 218 professional nurses was used from a population of 586. Participants were

recruited using simple random sampling techniques from all the wards in the hospital. The questionnaire was tested for face content validity through the expert observation and correction of nurses grounded in action research while the reliability of instrument was through a test-retest of the instrument on 10 nurses in General Hospital Calabar. The test-retest reliability of 0.6 was calculated using Pearson Product Moment Correlation Coefficient. Ethical approval was granted by the University of Calabar Teaching Hospital Ethical Committee. The respondents were assured of confidentiality and anonymity of their responses to ensure honest answers. Data were collected through face – face administration of questionnaire by the researchers. The test instrument was distributed and collected within 2 weeks. Data were analyzed using inferential and non inferential statistical methods.

RESULTS

Table 2: Socio-demographic Data of respondents

Variable	Freq.(n)	Percentage (%)	Mean ± Std. Deviation	SEM
Gender				
Male	20	9.2	1.19 ± 0.289	0.020
Female	198	19.8		
Total	218	100.0		
Age (Yrs)				
20-30	70	32.1	1.94 ± 0.766	0.052
31-40	90	41.3		
40 >=	58	26.6		
Total	218	100		
Marital status				
Married	124	56.9		
Single	83	38.1	1.48 ± 0.593	0.040
Divorced	58	5.0		
Total	218	100.0		
Religion				
Christianity	196	89.9	1.11 ± 0.342	0.023
Muslim	20	9.2		
Traditional	2	0.9		
Total	218	100.0		
Qualifications				
RN	18	8.3	2.38 ± 0.924	0.063
RN/RM	132	60.6		
BNS	50	22.9		
B.Sc / Others	7	3.2		
MNS	8	3.7		
M.Sc / Others	3	1.4		
Total	218	100.0		
Rank				
ADNS	4	1.8	5.11 ± 1.799	0.122
CNO	23	10.6		

ACNO	21	9.6		
PNO	30	13.8		
SNO	30	13.8		
NOI	40	18.3		
NOII	70	32.1		
Total	128	100.0		
Experience (YRS)				
5-10	93	42.7	1.85 ± 0.826	0.056
11-16	65	29.8		
16 >=	60	27.5		
Total	218	100.0		
Continuing education				
Weekly	25	11.5	2.41 ± 0.694	0.047
Monthly	80	36.7		
Quarterly	112	51.4		
Yearly	1	0.5		
Total	218	100.0		

Table 3: Prevalence of Nurses' Awareness of reflective practice

Variable	Time Awareness (%)	Task Awareness (%)	Result Awareness (%)	Total (%)
Knowledge	70 (32.10)	90 (41.3)	58 (26.6)	218 (100)
Communication	124 (56.9)	83 (38.1)	11 (5.0)	218 (100)
Critical thinking	90 (41.3)	63 (28.9)	65 (29.8)	218 (100)
Leadership role	93 (42.7)	65 (29.8)	60 (27.5)	218 (100)
Legislation & standards	73 (33.5)	81 (37.2)	64 (29.4)	218 (100)

Table 4: Multiple Regression analysis of awareness of reflective practice among nurses

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	0.974	0.948	0.947	0.176	0.689

Multiple regression analysis measured 1) the strength of the relationship on the test variables using Durbin Watson model that measures the upper and lower critical values of autocorrelation. 2) To see the magnitude of how each independent test variable contribute to knowledge of reflective practice. 3) To know the significance difference among the independent variables. Base on the above analysis, Durbin Watson value of 0.689 shows Statistical significance. This implies that predictor variable(s) contributed 94.8% to knowledge (dependent variable) of nurses' reflective practices.

Table 5: ANOVA

Model		Sum of Square	df	Mean Square	F	Sig. (P-value)
1.	Regression	120.720	4	30.180	971.072	0.000*
	Residual	6.620	213	0.031		
	Total	127.339	213			

* Indicates the significant different at P-value ≤ 0.05 level. We therefore reject the null hypothesis and conclude that there is a significant difference among the test variable or samples.

Table 6: Coefficients of the test samples

Variable	Unstandardized coefficients		t	p-value
	B	Std. Error		
1. Constant	0.110	0.035	3.167	0.002
Communication	-0.008	0.035	-0.220	0.826
Critical thinking	-0.450	0.073	-6.139	0.000
Leadership role	0.45	0.066	7.384	0.000
Legislation & Standard	0.918	0.046	20.164	0.000

From the table of the coefficients, the test variable (Independent variable) shows how significant each independent variable is contributing at a significant value to the relationship of reflective practice. It then shows that all the test samples have a significant difference with the dependent variable (knowledge) of nurses reflective practice, except communication that has no significant difference at p-value 0.826 (82.6%).

Table 7: Chi-Square(X^2) test of Nurses engaged in reflective practice

Variable	Observed (N)	Expected (N)	df	X^2	p-value
Yes	102	109.0	1	0.899	0.343
No	116	109.0			

A Chi-Square (X^2) value of 0.899 with p-value 0.343 (34.3%) as shown on the table implies that there is no significance difference between the Nurses that engage reflective practice at p-value ≥ 0.05.

Table 8: Respondents' approaches for reflective practice

Variables	SA (%)	A (%)	D (%)	SD (%)	Mean $\pm$ Std. Deviation	Std. Error of mean (SEM)
What reflective practice approach do you use						
a. I write notes	24(11.0)	51(23.4)	47(21.6)	96(44.0)	2.99 $\pm$ 1.058	0.072
b. I talk with others	89(40.8)	51(23.4)	43(19.7)	35(16.1)	2.11 $\pm$ 1.114	0.075
c. I observe events and situations	39(17.9)	62(28.4)	65(29.8)	52(23.9)	2.60 $\pm$ 1.039	0.070
d. I seek and get feed back	73 (33.5)	69(31.7)	45(20.6)	31(14.2)	2.16 $\pm$ 1.044	0.071

Discussion

This study was designed to evaluate nurses' knowledge and application of reflective practice as a tool for meaningful practice. Nursing actions are observed to run the risk of monotony if different approaches are not employed to challenge existing thoughts, feelings, and actions (Price, 2004). Employing other approaches to ensure meaningful practice in nursing is imperative to quality care delivery. Socio-demographic data of the respondents' shows that majority of the respondents were in their mid-career, a point where many professionals seek new challenges and opportunities to share their knowledge and experiences (Dube & Ducharme, 2014). Participants in this study perceive knowledge of reflective practice as a process of learning from experience; a conscious way of critically analyzing and evaluating existing knowledge to generate new knowledge; an attempt to evaluate professional activities to help make sound clinical judgment for better patient's outcome. These assertions are in agreement with many definition of reflective practice in the literature (Dube & Ducharme, 2014; Bulma, Lathean & Cubbi, 2012, Johns, 2010; Davey & Ham, 2010, Beam, O'Brien & Neal 2010, Gustafsson, Asp & Fagerberg, 2007). Awareness was used to evaluate nurses' knowledge of reflective practice. Awareness is the first essential step in development and learning. Three types of awareness relate to productivity. Knowledge of awareness helps individuals engaging in lifelong learning make a difference in their approach to situations. Awareness types include: time, task and results. The Prevalence of Nurses' Awareness of reflective practice is shown on table 3.

Time awareness in knowledge, communication, critical thinking, leadership role, legislation and standard application determine nurses' action to engage in reflective practice. Most nursing procedures are time bound thus certain actions must be carried out to meet with expected time. The amount of time spent regularly and consistently on a particular activity creates awareness of time for effective productivity. Gaining self-awareness in care giving assist individuals evaluate and judge care based on pattern, similarity and deliberate rationality (Kolb & Kolb, 2005, Kofoed, 2011, Kumar, 2011).

Task awareness shows how attentive an individual is of the things he or she does on a daily basis. Task awareness in this study enabled the caregiver to achieve; value and want to nurture what adds value to life of those cared for. It also encouraged self-examination of what, so what and what next in practice. It guided the practitioner on why a particular task should be performed. Task awareness provided understanding of the situation and the relevance of its sequence across time thus helping the practitioner to focus on actual performance and outcomes that can be compared across time. This finding was in consonance with Bulma, Lathean & Cubbi, (2012), Asselin & Fain (2013), Asselin & Cullen (2011), Paterson, & Chapman (2013) that maintained that reflective practice is a process of searching for solution to experiences in practice.

Result awareness was observed to be used only by few persons compared with time and task awareness. This was so because most nurses reported to be overwork due to shortage of staff. Result awareness demands constant journaling of details and things to be achieved and achievement of activities performed thus requiring one to stay conscious of his/her vision focusing on and consistently analyzing the results to get the needed awareness. The importance of keeping a reflective journal was low in this study even though its value has been captured in many studies (Devenny & Duffy, 2013, Bolton, 2010, Graham & Bailey, 2007, Chirema, 2006).

Multiple Regression analysis of awareness as shown on table 4 using Durbin Watson model showed 0.689 as statistical significance**.** To test for positive autocorrelation of significance the test statistics were compared to lower and upper critical values. Findings revealed that predictor variable(s) contribute 94.8% to knowledge (dependent variable) of nurses' reflective practices. To further ensure significance of the test variables, ANOVA statistical method was used to test the hypothesis that there is no significant difference among the test variables. The findings indicate significant difference at P-value ≤ 0.05 level thereby being agreement with Madueyi, Robinson & Oduali (2010), O'Donovan (2007), Bailey & Graham (2007) reports on reflective practice. Coefficients of the test variables indicate that all test items contribute a significant value to the relationship of reflective practice except communication. Chi-Square results however showed no significance difference among the participants. Respondents' reflective practice approaches clearly depict poor journaling of activities requiring conscious efforts to improve this all important action that support effective documentation and easy retrieval of information.

CONCLUSION

Reflective practice is an approach for learning from experience and incorporating that learning for meaningful nursing practice. The process of reflection in practice is triggered by awareness of challenging situations. Although majority of nurses in UCTH have knowledge of reflective practice, their approaches to achieve effective reflective practice is lacking. The study showed that there is a relationship between knowledge and application of reflective practice as those engaged in this practice communicate effectively, apply critical thinking in most nursing actions in leadership role, legislation and standard use of procedures. The study concludes that although several reasons impede nurses in UCTH conscious engagement in reflective practice, nurse leaders can change this attitude through seminars and conferences to help nurses form a habit of reflective journaling that acts as reference point for needed change in care delivery.

REFERENCES

Asselin M. E., & Fain, J. A. (2013*).* Effect of reflective practice education on self-reflection, insight and reflective thinking among experienced Nurses: A pilot study. *Journal for Nurses in professional Development.* 29 (3), 111-119.

Asselin, M. E. & Cullen, A. U. (2011). Improving Practice through reflection: *International journal of Nursing.* 41(94), 44-46.

Bailey, M. E. & Graham, M. M. (2007). Introducing guided group reflective practice in an Irish Palliative Care Unit: *International Journal of Palliative Nursing. 13(11), 555-560.*

Beam, R. J., O'Brien, R. A., & Neal, M. *(2010).* Reflective practice enhances public health nurse implementation of nurse-family partnership. *Public Health Nursing, 27(2), 131-139.*

Bolton, G. (2010). *Reflective practice, writing and professional development* (3rd ssEd.). California: SAGE Publications.

Bulma, C. (2013). An Introduction to Reflective Practice in Nursing *(5thed)* Oxford, UK: John Wiles & Sons.

Chan, S & Delvin, E. (2013). Supporting Nurses' Reflective Practice and ongoing profession al development. *http://www.circle.ubc.ca/.../2429.../chan_s_et_al_nurs 344_ supporting.pdf.*

Cirocco, M. (2007). How reflective practice improves Nurses' critical thinking ability: *Gastroenterology Nursing*, 30 (6), 405-411.

Collington V. & Hunts (2006). Reflection in Midwifery Education and practice: An exploratory analysis. *Evidence Based Midwifery, 4 (3), 76-82.*

Cropley, B. (2009): Reflective practice and consultant Effectiveness: Examination of sport psychology. *Retrieved from :http://www.iosr.journals.org*

Davey, Ronnie; Ham, Vince (March 2010). "'It's all about paying attention!' … but to what? The '6 Ms' of mentoring the professional learning of teacher educators". Professional Development in Education **36** (1-2): 229–244. doi:10.1080/19415250903457158.

Devenny, B. & Duffy, K. (2013): Person centered Reflective practice: *Journal of Nursing standards. 28(28), 37-43.*

Dube, V. & Ducharme, F. (2014): Reflective practice among Nurses working in a teaching Hospital: An action research with promising benefits for professional development: *Journal of Nursing education and practice*, 4 (8), 9-19.Doi:org/10.5430/jnep.v4n8p9

Enuku, C. A., & Enuku, U. E. (2013): The need to incorporate reflective practice into Nursing Education Curriculum in Nigeria. *Journal of Nursing and Health science. 1 (2), 57-61.*

Freshwater, D., Taylor, B. & Sherwood, G. (2008). *International textbook of reflective practice in nursing.* Oxford: Blackwell Publishing.

Gustafsson, C. Asp, M. & Fagerberg, I. (2007). Reflective practice in Nursing care: Embedded Assumptions in qualitative studies. *International Journal of Nursing studies,* 13(2), 151-160.Doi:10.1111/j.1440.172X00620x

Johns, C. (2009). *Becoming a reflective practitioner*, 3rd edn. Oxford: Wiley-Blackwell.

Johns, Christopher, ed. (2010) Guided reflection: a narrative approach to advancing professional practice (2nd ed.). Chichester, UK; Ames, Iowa: Blackwell. doi:10.1002/9781444324969. ISBN 9781405185684. OCLC 502392750

Kofoed, N. A. (2011). Reflective practice for personal and professional transformation. *Journal of Christian Nursing.* 28(3), 132-138.

Kolb, Alice Y.; Kolb, David A. (2005). "Learning styles and learning spaces: enhancing experiential learning in higher education". Academy of Management Learning and Education **4** (2): 193–212. doi:10.5465/AMLE.2005.17268566. CiteSeerX: 10.1.1.127.6489.

Kumar, K. (2011). Living out Reflective Practice*: Journal of Christian Nursing, 28 (3), 140-143.* Doi:10.1097/CNJ.obo1.3e.31821d416

Maduenyi, P. W., Robinson-Bassey, G. C. & Oduali, E. N., (2010). Approaches to reflective thinking in clinical practice: *International Journal of Nursing. 8 (2), 191-197.*

Mann, K, Gordon, J. & Macleod, A. *(*2009*)*: Reflection and reflective practice in health profession Education: *A systematic review. Advances in Health Sciences Education* 14 (4): 595–621. doi: 10.1007/s10459-009-2 *Retrieved from: http://www.nursingtimes.net/nursing-practice/clinical-specialisms/educators/a-pr. .*

McBrien, Barry (July 2007). "Learning from practice—reflections on a critical incident". Accident and Emergency Nursing **15** (3): 128–133. doi:10.1016/j.aaen.2007.03.004. PMID 17540574.

O'Donovan, M. (2007). Implementing reflection: Insight from pre-registration, mental health students. *Nurse Education Today*. 27(6), 610-616.s

Paterson, Colin; Chapman, Judith (August 2013). "Enhancing skills of critical reflection to evidence learning in professional practice" (PDF). Physical Therapy in Sport **14** (3): 133–138. doi:10.1016/j.ptsp.2013.03.004. PMID 23643448.

Price, Adrienne (August 2004). "Encouraging reflection and critical thinking in practice". *Nursing Standard **18** (47): 46–52.* doi:10.7748/ns2004.08.18.47.46.c3664.

Somerville, D. & Keeling, J. (2004). A practical approach to promote reflective practice within nursing. http://Nursingtimes.net, 100(12), 1-11.

Taylor, B. J. (2010). Reflective practice for Health Care Professionals. *(3rd ed).* Maiden head: Open University Press.

Walker, Susan (January 1996). "Reflective practice in the accident and emergency setting". *Accident and Emergency Nursing 4 (1): 27–30.* doi:10.1016/S0965-2302(96)90034-X. PMID 8696852

APPENDIX

Durbin Watson model of Multiple Regression analysis measures the upper and lower critical values of autocorrelation.

To test for **positive autocorrelation** at significance α, the test statistics d is compared to lower and upper critical values ($d_{L\alpha}$ and $d_{U,\alpha}$):

- If $d<d_{L,\alpha}$, there is statistical evidence that the error terms are positively autocorrelated.
- If $d>d_{U,\alpha}$, there is **no** statistical evidence that the error terms are positively autocorrelated.
- If $d_{L,\alpha}<d<d_{U,\alpha}$, the test is inconclusive.

Positive serial correlation is serial correlation in which a positive error for one observation increases the chances of a positive error for another observation. Where "a the slope" represents the coefficient of the predictor variables, "b_0" the constant and "Y" is the dependent variable (Knowledge)

a. Predictors: (Constant), Legislation & Standard, Communication, Leadership role,Critical thinking.

b. Dependent variable: knowledge (Y).

R square = 0.948 (94.8 %),

From the multiple regression model

Y= b_o + aX_1 + aX_2 + aX_3 + aX_4 + ε (error term)

b_o = Constant

X_1 = Legislation & Standards

X_2 = Communication

X_3 = Leadership role

X_4 = Critical thinking

It therefore implies that predictor variable(s) are contributing a whole 94.8% to the **knowledge** (dependent variable) of nurses' reflective practices.