Constructivism: An Approach in Training Nursing Students in the Clinical Setting

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ABSTRACT

Nurses are important in the society because of their soft and caring hands. Because of the changing needs and increase in demand of care, today's generation nurses are expected to be critically thinking of their own to be effective without depending too much from the other health care team. Educators in the clinical setting have to utilize new teaching innovations that would create proficient nurses. This paper aims to display that constructivist approach will enable nursing students to deal with complex situations in the hospital through analysis, application, evaluation, and creation; increase motivation and autonomy in nursing care with critical decision making; confirms active construction of knowledge among nursing students using language based on past experiences; enhance communication among students that provide real world examples and will provide them with experience-based learning opportunities to practice.

Student nurses are active learners in the clinical area because of their philosophy that their client's health and well-being depends on their hands. This paper concludes that constructivist approach will create globally competent nursing students and enable them to deal with complex situations in the hospital through analysis, application, evaluation and creation with motivation and autonomy. It is the duty of the educators to enhance that skill by letting them actively construct knowledge using language based on past experiences, then context-rich. This kind of learning strategy will provide learners with experience-based learning opportunities to practice skilled with appropriate decision making process. Let us not waste what students know, instead, we save, preserve and add. Educators need to let these students feel that as early as internship, they are capable and competent in providing quality care. Therefore, guidance is needed and not directives.

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Introduction:

Background:

Each being has a unique approach of studying what exists in this world that is based on own philosophical knowing. Man's perspective on any "thing", asked by a "what" is not just a coincident thinking but is an instinct thinking to answer a question to fill in the gaps. Denzin and Lincoln (1998) shares that constructing reality like, "how things really are" and "how things really work" is ontology (p. 201). It pertains to ways of being in this world; perspectives on the existence and experience of being (Chinn and Kramer, 2011, p.253).

Graduates who chose nursing as their profession have to learn "what nursing is." In order to exist as one, these students have to train and finish the course not because of just having a course but to finish it with proud and satisfaction.

Nursing is an eclectic profession wherein it deals with the caring process of clients to promote health and well-being in collaboration with other health care teams. It also pacts with communicating, managing, and leading colleagues to provide quality care. That is, nursing does not only rely on what the doctor's say rather does think if the intervention benefits or harms the client. In reality, when student nurses have their clinical duty, nurse clinicians usually command on what the student will do to the client. For example, an adult with no heart and kidney problems has signs of dehydration. There is a new order of "increase intravenous rate to 50 drops per minute". The nurse calls the student's attention and commands her to increase the IVF as ordered. This way of training students will not create sense of critical thinking instead will create dependency. Significantly, these students have to feel proficient before graduation. Therefore, an issue that the nursing academe must resolve is: "How to train and prepare student nurses to be globally competent?" Students who choose nursing as their profession need new innovations of learning in the clinical setting and must be guided appropriately without spoon feeding of thoughts. As much as possible, the educators' goals are to: (a) Stimulate nursing students' sense of initiative and critical thinking, (b) reflect own weaknesses and make modifications to strengthen identified weaknesses, (c) communicate effectively, and (d) make feel that the student already has the profession. In this paper, constructivism is considered and analyzed to reveal its impact in teaching student nurses in the clinical setting and to be globally competent nurse.

Constructivism is one of the ontological perspectives that has been used and supported by John Dewey, Jean Piaget (1969), and Lev Vygotsky (1962). Piaget first emphasized the processes of conceptual change as interactions between existing cognitive structures and new experience (Piaget, 1969; Wasdworth, 1978). This paper used Piaget's psychological development as a basis of using constructivism as a teaching strategy for nursing students because of its three mechanisms of advancing a learner: (a) Assimilation wherein there is fitting of new experience into an existing schema, (b) Accommodation wherein there is revision of existing schema due to new experience, and (c) Equilibrium wherein there is seeking of cognitive stability through assimilation and accommodation (Santrock, 2010). Also used Dewey's belief in "educating the whole child, physically, mentally, and socially, and not just on the dispensation of facts and information" (Cushman et al. 2005). Vygotsy (1962) believes that knowledge is constructed socially using language and everyone has different social experiences resulting in multiple realities (Jonassen, 1996).

Objectives

        This paper aims to display that constructivist approach:

1.   Enable nursing students to deal with complex situations in the hospital through analysis, application, evaluation, and creation.

2.   Increase motivation and autonomy in nursing care with critical decision making.

3.   Confirms active construction of knowledge among nursing students using language based on past experiences.

4.   Enhance communication among students that provide real world examples and will provide them with experience-based learning opportunities to practice.

Discussion

Traditional teacher-centered teaching includes telling to students what are expected to be done during their clinical rotation via lecture before and after duty. It is a method of presenting vast amount of content in a reasonable time frame (Billings and Halstead, 1998). This passive one way transmission of knowledge from the educator to student is unlikely to stimulate the ability to critically think through problems, analyze situation and intervene correctly. Splitter (2009) agrees and further states that students are active participants in the learning process, rather than passive recipients of knowledge and according to Ebert-May, Brewer, and Allerd (1997), telling students what to do creates a passive, non-thinking, information-receiving role.

In the clinical setting, other clinical instructors provide a list of activities to students in lieu of their clinical area that must be accomplished within the clinical rotation such as bed bath, oral care, giving of medications, charting, filling up of kardex, and others: "these are how things really are done" which means that these are interventions that nurses are supposed to do when caring for patients. However, it is also important to know "how these things really work," which means that these are the interventions that nurses must do due to its rationale in caring patients. Constructivist is a student-centered approach. This means that rather than lecturing to students on what they must know, this approach allows students to construct their own knowledge and fulfill their individual learning needs and interests. And rather than students listening for the whole session, use of other primary sources like journals and technologies enable students to interact, analyze, interpret and evaluate ideas and curiosity. According to Brader-Araje & Jones (2002), constructivism can be defined as "the idea that development of understanding requires the learner to actively engage in meaning-making." It is not a theory about teaching but a theory about knowledge and learning. It defines knowledge as temporary, developmental, socially and culturally mediated, and thus non-objective (Brooks & Brooks, 1993, p.vii). Meaning is constructed not discovered, so students construct their own meaning in different ways. It has 6 methods: Constructive, reflective, collaborative, active, inquiry based, and evolving. Educators will need to acknowledge that they cannot assume that all learners will understand new information in the same way. Based on this assumption, I argue that educators need to understand that student nurses will require a variety of different experiences to advance to different levels of understanding. Thus, student nurses' prior knowledge must be brought up in front if they are to apply current understandings to new situations in order to construct new knowledge. To achieve this, educators need to spend time understanding their current perspectives and, based on this information, incorporate learning activities relevant for each learner for them to be flexibly think. Memorization and recitation of facts will not keep patients safe and healthy in the ward. Bain (2004) advises educators to encourage nursing students to "compare, apply, evaluate, analyze, and synthesize, but never only to listen and remember" (p.B8).

Moreover, not all nursing students have the same array of learning styles and preferences due to socioeconomic and culture differences. Some are fast, average, and some are slow. Accommodating to these differences is now a challenge for the nursing academe. Let nursing students "think on their feet" in order for them to adjust immediately to life-threatening alterations of their clients. As an educator, it is important that assessment of students is linked with teaching in order to come up with activities and strategies for learning so that all students will benefit. Further, learning starts from the attitude of the educator wherein he acts in an interactive manner facilitating the working environment for students where student questions are highly valued. Willingham (2009) notes that, "If the teacher does not direct a lesson to provide limitations on the mental paths that students will explore, the environment itself can do so effectively in discovering learning context" (p.63). Rather than individual seatwork or quiz, group work and group interactions like case analysis or concept mapping of a client's case are encouraged to enhance learning experiences and for the educator to assess who are actively participating and who are not (cooperative learning). Marzano et al (2001) outlined five elements of cooperative learning: (a) Positive interdependence, (b) promote face-to-face interaction wherein each helps each other to learn and applaud efforts, (c) individual and group accountability wherein each has to contribute in achieving goals, (d) interpersonal and small group skills wherein there is communication, trust, leadership decision making and conflict resolution, and (e) group processing wherein there is reflection on how well the team is functioning and how to function even better (p.85-86). Smith (2003) supported that active group cooperative learning leads to more engagement of nursing students at the college level and increases their achievements. The same study also showed that 79% of students taught by the cooperative methods complete their studies successfully as compared with 57% of those who completed their studies successfully by using the traditional teaching methods. For group works, use of other resources like the internet, e-books, and journals are helpful. Higher education providers recognize the increasingly important role of technology and its impact to nursing students in terms of competence development (Ragusa, 2010, p. 229). Other than the inputs of the clinical instructor, when students engage in other resources, the instructor may step back from her directive role. Instead, she becomes the facilitator and assist students in an interactive and guiding manner during patient teaching and care. It is important that the educator does patient rounds to assess if the students are in the correct track and are within the goals of the activity. Constructivism supports the education of nurses by improving critical thinking skills and encouraging a rapid adaptation to changes in evidence-based practice. Developing the ability

to gather information, analyze it critically, evaluate it experientially, and then develop a new framework for the information is the best way to produce nurse graduates with critical thinking skills (Candela et al 2006).

Constructive

Previous knowledge is the raw material to create new knowledge. Written nursing care plan and a concept map may be used for this method. A study of Merill (2009) showed that students perceived concept mapping as creative as it allowed each member to construct their own understandings by organizing and prioritizing information (p. 90).

Reflective

Students reflect preceding knowledge and experience. After completing an intervention, reflection is required. Reflection "can be seen as an essential human capacity for thinking about oneself, events, or circumstances with a view to interpreting and understanding those things" (Evans, 1991, p. 12). This means that student nurses reflect about previous experiences, how those experiences compare to their current understandings, and how different understandings might provide them with improved understandings. Nyback (2013) states that constructivism supports personal reflections of the student and helps them internalize the knowledge in an independent way (p.14).

Collaborative

Students review and reflect learning process among another. Cooperative learning is applied wherein learners work together in collaborative groups aimed at achieving shared learning goals. Each member is responsible for his own learning as well as for the learning of the other group members (DeYoung, 2003. p.141)

Active

Students participate in learning activities. Supervised physical examination as a form of coaching can be used for this method. Locke (2008) says that coaching skills are based on the principles of developmental psychology and fall into the domain of interpersonal skills. It includes the capacity to ask thought-provoking questions, to listen actively and the authenticity to share valuable observations without generating defensiveness. This explains why coaching helps nursing students find their own constructs of knowledge and they should learn to benefit from the knowledge they obtain through clinical duty. Journaling is an example of an instructional method that facilitates the process of internalizing dialogue (Vygotsky, 1962). Specifically, journaling reinforces the skill of reflecting what was simultaneously being discussed with others (Burnham, 1992; Reinersten and Wells, 1993; Beyerbach, 1992).

Inquiry based

Students ask questions, investigate a topic, and use to find solutions and answers. Case studies provide nursing students opportunity to enhance learning through the examination of actual patient situations. A case study provides information about a simulated (or sometimes real) situation; learners respond to predetermined questions or develop an action plan (Marsick, 1990).

Evolving

Students compare their new knowledge with their prior knowledge. Reaction paper, making a synthesis of a research study, and Venn diagraming are activities that can be utilized in this method.

After the clinical duty or any activities within, feedback is important. Airasian (2008) states that learners need feedback in order to help improve students' learning and behavior. Further supported by Bates and Poole (2003) stating that learning includes the educator providing feedback to students so that they know their considerations toward new understanding are on track. According to Grow (1991, 1996), the student needs someone to show the path to the goal, and someone to coach the student towards this goal by giving feedback and helping the student to overcome deficiencies.

The table below shows examples and differences between a teacher centered learning from a student centered learning.

TRADITIONAL TEACHING	CONSTRUCTIVIST TEACHING
Student: Ma'am, my patient has a temperature of 37.9 degrees Celsius. **Instructor:** Are there signs of chilling episodes? **Student:** None Ma'am **Instructor:** Do TSB first then recheck after 30 minutes. If your patient still has fever then you can give paracetamol 500 mg as ordered.	**CONSTRUCTIVE** **Student:** Ma'am, my patient has a temperature of 37.9 degrees Celsius. **Instructor:** What is your plan to your patient? **Student:** I am going to administer paracetamol 500 mg for fever as ordered. **Instructor:** Are there other interventions that you would like to consider before your dependent intervention? **Student:** Since my patient has no chilling episodes, I may ask my patient to remove excess blanket and clothing. I'll also open the windows for environmental cooling. His wife is cooperative so I can teach her to do TSB. **Instructor:** How would you know that your intervention is effective? **Student:** I will recheck his temperature after 30 minutes. If my patient still has fever then I can give paracetamol 500 mg as ordered.
There is a new order… **Instructor:** Ms. Chan, increase the oxygen regulation of your client to 5 lpm as per new order of Dr. Gomez.	**CONSTRUCTIVE** **There is a new order…** **Instructor:** Ms. Chan, what is the new order of Dr. Gomez? **Student:** That I increase the oxygen regulation of my client to 5 lpm. **Instructor:** Go and increase then come back to me and explain the rationale of increasing it…
Clinician Nurse: Ms. Oz, you have infused 500 ml of your patient's IVF which should only be 300 ml for the shift. Make an incident report. **Student:** *(Went to instructor)* Ma'am, I'm sorry but I have over infused 200 ml of my patient's IVF for the shift. **Instructor:** You should be sorry to your patient and not me. Make an incident report then. **Student:** Here is my IR ma'am. **Instructor:** *(After reading)* I reminded you of your computation and checking of IVFs. This will be your sanction….	**REFLECTIVE** **Clinician Nurse:** Ms. Oz, you have infused 500 ml of your patient's IVF which should only be 300 ml for the shift. Make an incident report. **Student:** (Went to instructor) Ma'am, I'm sorry but I have over infused 200 ml of my patient's IVF for the shift. **Instructor:** What did you do after knowing that you over infused? **Student:** I decreased my regulation and checked for signs of respiratory and cardiac congestion… **Instructor:** Very good. Make an IR then. **Student:** Here is my IR ma'am. **Instructor:** (After reading) Tell me your insights on the incident. I applaud your honesty about over infusion but your action has to face a consequence.
Patient has signs of dehydration due to LBM… **Instructor:** In order for you to have a good data, you assess your client's skin turgor, eyeballs, and ask your patient to bring out his tongue and check for dryness. Do IAPePa to check abdominal status. **Or** **Instructor:** *(Accompanies student to bedside and commands on what to do and decides on what to health teach)*	**CONSTRUCTIVE, INQUIRY-BASED** **Patient has signs of dehydration due to LBM…** **Instructor:** Before we go to your client… what data will you assess? **Student:** I will assess my client's skin turgor, eyeballs, and I will ask my patient to bring out his tongue and check for dryness. **Instructor:** What do you think is the reason why you need to take those data? **Student:** To check if he's dehydrated or not because of diarrhea. **Instructor:** Therefore, what else will you assess since you said that diarrhea is the cause? **Student**: Abdominal status…

	Instructor: *(Asks if there are inquiries… then)* Demonstrate to me first before we go to your patient.
After 7 – 3 shift at the ER… **Instructor:** Students, I know that this duty has been tough for you. Some were scolded by the head nurse because of being slow; some were blah blah blah…	**REFLECTION, ACTIVE, COLLABORATIVE** **After 7-3 shift at the ER…** **Instructor:** Students, group into subgroups of 3 members. In 5 minutes, reflect at least 2 deviations that are against standards that you observed in your 7-3 duty. There are a lot to reflect on: ward set-up, communication and collaboration within the nurses and other health care team, the head nurse and her subordinates. **Students:** *(Presents experience)* **Instructor:** As future nurses, what can you do to correct these deviations?
Instructor: Bring out ¼ sheet of paper and answer the following questions regarding RHD and RF in true or false. **Instructor:** *(Feedbacks according to correct answer)*	**EVOLVING, ACTIVE, COLLABORATIVE, INQUIRY-BASED** **Instructor:** Subdivide your group into 2 subgroups. Compare and contrast rheumatic heard disease and rheumatic fever using Venn diagram. **Instructor:** *(Asks the subgroup A to present their output and lets subgroup B to ask questions, then vice versa. Gives input to their output.)*

Limitations

Since constructivist approach needs sufficient time and expertise, not all nurse educators are comfortable in utilizing it. The educator must understand where the students' levels of knowledge are and what experiences they already have. This approach is limited to clinical areas that are not too busy where learning is spacious. Students may have inconsistencies in learning since they do not only train under their instructor but also under the clinical nurses. In terms of the use of technology and other resources, not all students have it due to low socioeconomic status. Use of technology also depends on the academe's policy wherein some hospitals and nursing universities do not allow students to use gadgets while on duty. With these limitations, disadvantages are experienced such as non-involvement of all students' voices during discussion and sharing of unsure knowledge resulting to a poor group output and poor feedback.

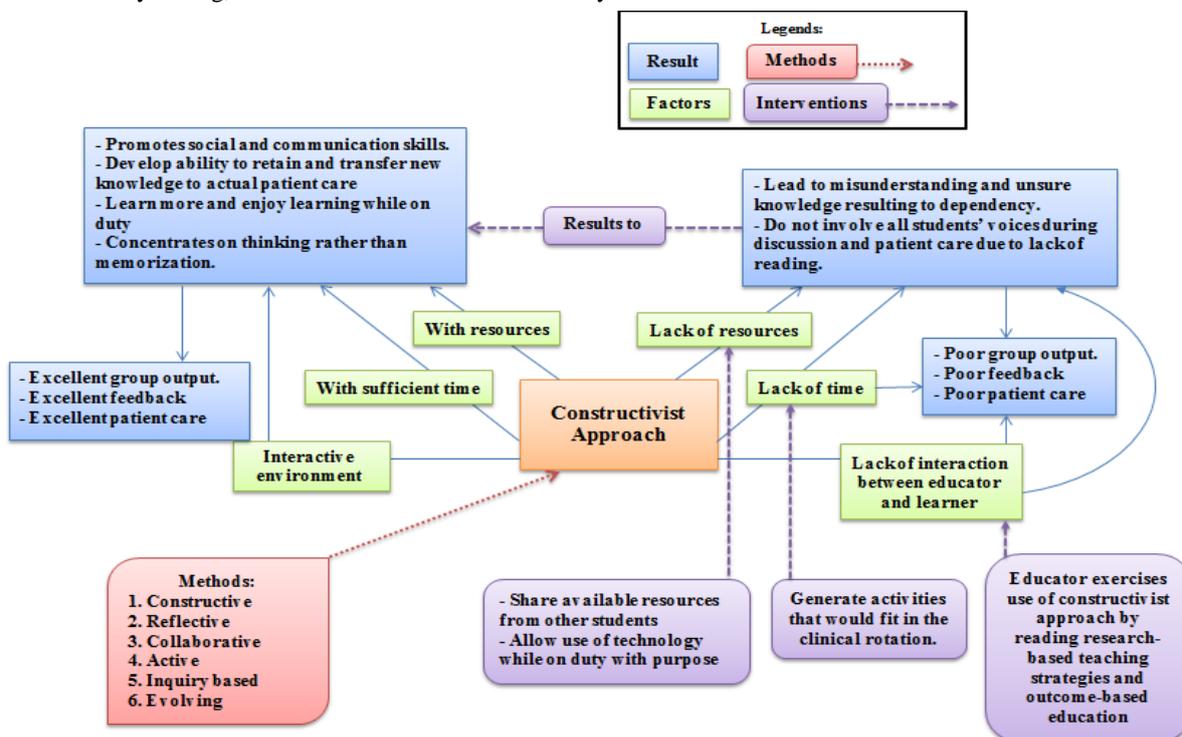In any setting, there is no excuse. There will always be a solution to hindrances.

Figure 1. Shows constructivism's system in training student nurses in the clinical area.

Conclusion

I discern that constructivist approach will create globally competent nursing students and enable them to deal with complex situations in the hospital through analysis, application, evaluation and creating. It allows continuous assessment on the learning process of the students, and encourages cooperative learning. Students are active learners so it is the duty of the educators to enhance that skill by letting them actively construct knowledge using language based on past experiences, then context-rich. It is also known that long-term learning environment that enhances communication provides real world examples are required. This kind of learning environment will provide learners with experience-based learning opportunities to practice with satisfaction and success in completing the nursing profession. Let us not waste what students know in the clinical setting, instead, we save, preserve and add.

Recommendations

Nursing Education

1.   Constructivist approach is highly recommended inside the classroom.

2.   Include in level meetings constructivist approach in training nursing students and create centralized activities that will be used by educators within and after clinical duty.

3.   Incorporate effective philosophical teaching and learning strategies like constructivism to some nursing subjects like organizational and management and STS.

4.   Allow students to use technology within the duty with purpose such as finding inquiries via the internet and e-books.

Nursing Practice

1.   The nursing service of the hospital encourages its nurses to apply constructivist approach in training student nurses and novice nurses in their ward.

2.   Use of this approach in communicating and collaborating with other health care team members is highly recommended.

Nursing Research

1.   Conduct experimental research on the effect of constructivist approach to the learning of nursing students in the clinical setting and determine if there is significant difference on the year level.

2.   Conduct research on the experiences of faculty who uses constructivist approach in training nursing students.

3.   Research on the relationship of constructivist learning to nursing students' attitude in caring patients and in working with other health care members.

REFERENCES

Bain, K. (2004). What makes great teachers great? The Chronicle of Higher Education. 7-9.

Balkon, NA. (2000). How acute care nurse practitioners in specialty practice interpret their role. Unpublished doctoral dissertation, New York: Adelphi Unversity.

Brader-Araje L. & Jones M.G. (2002). The impact of constructivism on education: Language, discourse, and meaning.American Communication Journal. 5(3).

Brooks, J. & Brooks, M. (1993). The case for the constructivist classrooms. Alexandria, VA: ASCD.

Burnham, C. (1992). Crumbling metaphors: Integrating heart and brain through structured journals. College Composition and Communication, 43(4), 508-515.

Carson, D., Gilmore, A., Perry, C., and Gronhaug, K. (2001). Qualitative marketing research. London: Sage.

Chinn, P.L & Kramer, M.K. (2011). Integrated theory and Knowledge Development in nursing, 8th edition. Mosby, Inc. 1-253.

Churchill, GA. (1996). Basic marketing research, 3rd edition. Fort Worth, TX: The Dryden Press.

Craig, D., Cloutier, JD., and Bailey, PH. (2007). Concept analysis: The importance of differentiating ontological focus. Journal of Advanced Nursing. 58 (3), 293-300.

Cohen, L., Manion, L. and Morrison, (2000). Research Methods in Education (5th ed.). London: Routledge Falmer.

Crotty, M. (1998) The Foundation of Social Research: Meaning and Perspectives in the Research Process. London: Sage.

Ebert-May, D. Brewer, C. & Allerd, S. (1997). "Innovation in Large Lectures. Teaching for active learning". Bioscience. (47). 601- 607.

Grow, Gerald O. (1991/1996). "Teaching Learners to be Self-Directed." Adult Education Quarterly, 41 (3), 125-149.

Hudson, L. and Ozanne, J. (1988). Alternative ways of seeking knowledge in consumer research. Journal of Consumer Research, 14(4), 508-521.

Jonassen, D. H. (1990). Thinking technology: Toward a constructivist view of instructional design. Educational Technology, 30(9), 32-34.

Locke, A. 2008. Developmental Coaching: Bridge to Organizational Success. Creative Nursing. 14 (3)

Marsick, V. (1990). Case Studies. In Michael W. Gailbraith. Adult Learning Methods. (Eds.) Malabar, FL: Robert E. Krieger Publishing Co., Inc.Maturana, H. R. (1991). Response to Jim Birch. Journal of Family Therapy, 13, 349-373.

Martone, Maryann. (2012). Big data from small data: A deep survey of the neuroscience landscape data via the neuroscience information framework. 1-42.

Marzano, RJ, Pickering, DJ & Pollock JE. (2001). Classroom instruction that works: Research-based strategies for increasing student achievement. Alexandria, VA: ASCD.

Merrill, Allison Saricks. (2009). The impact of constructivist teaching strategies on the acquisition, Proquest LLC. 88-100.

Nunnery, RK. (2012). Advancing your career: Concepts of professional nursing. 5th edition. F.A Davis Company. 1-115.

Nyback, MH. (2013). A constructivist approach to teaching and learning at the degree programme in nursing at Novia university of applied sciences. Serie R: Rapporter. 1-18.

Piaget, J. (1969). The mechanisms of Perception. London: Rutledge & Kegan Paul.

Ragusa, Angela T. (2010). Interaction in communication technologies and virtual learning environments. Information Science Reference. USA. 229-235.

Reinertsen, P. S. & Wells, M. C. (1993). Dialogue journals and critical thinking. Teaching Sociology, 21(2). 182-186.

Santrock, John. (2010). Adolescence. McGraw-Hill company, New York. 95.

Smith, I. (2003). "Engagement and Student Achievement. Who Care?" Http//www. Ed. Napier. Ac.UK/staffconference/hune2003 /papers/smith. PDF.

Splitter, L. (2009). Authenticity and constructivism in education: Studies in Philosophy and Education. Springer Science and Business Media. online at http://www.springerlink.com/content/53t61n7634849x58/

Vygotsky, L. (1962). Thought and language. (E. Hanfman & G. Backer, Trans.) Cambridge, MA.: M.I.T. Press (Originally published in 1934).

Wadsworth, B. (1978). Piaget for the classroom teacher. New York, NY: Longman.

Willingham, D. (2009). Why students don't like school: A cognitive scientist answers questions about how mind works and what it means for the classroom. San Francisco: Jossey Bass.