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Application of Bandura's social cognitive theory in the technology enhanced, blended learning environment

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Abstract

Aim: The aim of the study is to focus on the contribution of Bandura's social cognitive theory within the field of education and to help the researcher to understand the nature of theoretical and conceptual frameworks and how they can be used to help give direction to a study, or be identified as an outcome.

Background: The central principle of Bandura's theory is the social context of learning: This article represents the concept of triadic reciprocal determinism which explained as "a continuous reciprocal interaction between personal, behavioral, and environmental determinants. Individuals gain knowledge from interaction with their environment. In addition, Bandura asserts the environment is inclusive of observing and modeling other individuals' attitudes and behaviors. Bandura promotes observational learning and believes information can be transmitted to many learners by just one model.

Review methods: Concepts based on Albert Bandura's "Social Cognitive Theory (1962)" were used to provide a framework for quantitative research involving modeling as a teaching strategy. The framework is used to determine research questions and give direction to research design.

Discussion: Some research methods do not overtly use a theoretical framework or conceptual framework in their design. The use of modeling as a teaching strategy dates back to Bandura's work in the early 1960's. The individual observes the modeled event and forms a cognitive construct, which shape future behaviours. A person will choose to engage in specific behaviours that he or she has acquired by observational learning. Therefore, more than one student or person can benefit from viewing a video of well modeled care.

Conclusion: It is not possible to expose students to all aspects of theoretical and clinical practice while in College level. Educators must be creative to bridge the gap between classroom teaching and clinical practice.

Keywords: Bandura, Bandura's social learning theory, Social cognitive theory, video modeling, observational learning, theoretical framework etc

1. Introduction

Conceptualization is the process of forming ideas, designs, and plans. A framework deals with concepts assembled together by virtue of their relevance and the research problems, which provides a certain frame of reference for clinical practice, research, and education. Theoretical and conceptual frameworks broadly present an understanding of the phenomenon of interest and reflect the assumptions and philosophic views of the models. The model gives direction for planning research design, data collection, and interpretation of findings [1, 2].

Social learning theory is how people learn through observing others. An example of social learning theory would be the students imitating the teacher. Bandura described his theory of social learning as being developed in a context in which "the prevailing analysis of learning focused almost entirely on learning through the effects of one's actions in terms of peripheral association of environmental stimuli to responses [1, 3].

Bandura's social learning theory contributes to students and teachers within the field of education later changed to social cognitive theory. In research it offers support that modeling can be useful for incorporating new strategies into training for teachers. Observational learning occurs when students or teachers observe a well-trained model and experience increases in their knowledge and understanding. In an educational setting self-efficacy refers to a student or teacher's confidence to participate in certain actions that will help them achieve distinct goals [2, 3]. According to Bandura's observational learning theory, students acquire self-regulative functions from observing models. Lastly, the mutual relationship between a student or teacher, their environment, and their behavior is pointed out as key

components in Bandura's triadic reciprocal determinism theory [4]. The mutual relationships within reciprocal determinism point out what influences behavior and the results that will affect future thoughts [4, 5].

Psychologist Bandura [3] conducted a "Bobo Doll" study, where he demonstrated that children learned and imitated behaviours which they had observed in other people. Children observed a video, where in an adult were acted violently with a Bobo Doll. When the children were later allowed to play in a room with the Bobo Doll, they had begun to imitate the aggressive actions they had previously observed [6].

Krouse [7] investigated the effect of video modelling to educate patients. He found that video modelling had potential benefits for clinical practices in facilitating knowledge retention and improved self-care. Donker [8] observed that video-based instruction was useful to show practical and real life activities and could be used to capture hazardous and costly experiments for presentation and for repeated use.

In society, children are surrounded by many influential models, such as parents within the family, characters on children's TV, friends within their peer group and teachers at school. Children pay attention to some of these people (models) and encode their behavior. At a later time they may imitate the behavior they have observed [3].

As investigators we found this conception wanting on the determinants, mechanisms, and scope of observational learning. We developed a video assisted teaching programme on antenatal examination based on the concepts of observational learning as it typically occurs in the absence of reinforced performance. We tested the determinants of observational learning and the mechanisms through which it works through pilot testing and found that how people acquire cognitive, social, emotional, and behavior competencies but also how they motivate and regulate their behavior and create social systems that organize and structure their lives.

2. Social cognitive theory in the field of Education

By the mid-1980s, Bandura's research had taken a more holistic bent, and his analyses tended towards giving a more comprehensive overview of human cognition in the context of social learning. The theory he expanded from social learning theory soon became known as social cognitive theory [3].

Bandura's social cognitive theory provides a framework for understanding the use of video modeling to improve specific behaviours. According to social cognitive theory, behavioural competencies, social competencies and cognitive skills are acquired through observational learning. The individual observes the modeled event and forms a cognitive construct, which shape future behaviours. A person will choose to engage in specific behaviours that he or she has acquired by observational learning [9]. Bandura introduced the concept of triadic reciprocal determinism. Triadic reciprocal determinism was explained as "a continuous reciprocal interaction between personal, behavioral, and environmental determinants" [3, 6].

- **Environment (E):** Environment refers to the factors that can affect a person's behaviours. There are social and physical environments. Social environment include family members, friends and colleagues. Physical

environment is the size of a room, the ambient temperature or the availability of certain foods [3].

- **Personal (P):** Seeking the cause of human behaviours in dispositional sources in the form of instincts, drives, traits, wisdom, thoughts, feelings, beliefs, self-perception, goals, intentions and other motivational forces within the individual [3, 6].
- **Behavioural (B):** Knowledge and skill to perform a given behaviours [3, 6].

These three factors such as environment, person and behaviours constantly influence each other. Behaviours is not simply the result of the environment and the person, just as the environment is not simply the result of the person and behaviours [10].

3. Contribution of Social cognitive theory

Social cognitive theory is related to contributions that move the learners towards learned behaviours from observational learning or modeling where in they carry a great deal of information and properties or behaviours¹¹ as revealed in the following studies.

Krouse *et al* [7] conducted a study to see the effect of video as an adjunct to preoperative education based on Bandura's social cognitive theory. The study developed a nursing based videotaped instruction in increasing knowledge and self-care practices among patients undergoing nasal surgery. The study revealed that desired skills and knowledge can be effectively taught through observation of models demonstrating behaviours.

Chen and Chiang [12] conducted a quasi-experimental study to see the effectiveness of the hand washing teaching program for families in paediatric intensive care unit. Based on Bandura's social cognitive theory he developed a teaching programme with video to demonstrate the techniques of hand washing.

Keardphan J [13] discovered that teenage mothers who received breast-feeding promotional programmes and watched videos on breast-feeding behavior had higher overall breast-feeding behaviours score than those mothers who received only routine nursing care. Therefore social cognitive theory is related to contributions that the learners learned more from observational learning.

Nanthakasikon W [14] studied the effect of computer based instruction on breast-feeding duration among adolescent mothers based on social cognitive theory. She found that adolescent mothers who had received the computer based instruction had higher score than the mothers who received only routine nursing care. This experiment displayed the Social Cognitive Theory because it depicts how people re-enact behaviour they see in the media

Sharma and Corbin [15] conducted an experimental study among twenty one mothers to test an innovative yoga based behavioural intervention for smoking cessation, based on social cognitive theory and compared it with an existing self help based programme in terms of quitting cigarettes. The findings suggest that a social cognitive theory based intervention was more efficacious in influencing the antecedents of smoking cessation than a self-help approach.

Rogers *et al* [16] conducted a survey study among 12 women with breast cancer to reduce treatment-related fatigue and improve quality of life by social cognitive theory used as a framework for the design of physical activity interventions. The findings revealed that most mothers felt that exercise

was more beneficial than harmful during treatment, with the two most important benefits identified as reduced fatigue and the potential for improved survival.

4. Use of a framework in a Quantitative Research

The key to successful breast-feeding information is education and communication strategies, which are aims at behaviours change. Very few women have access to counselling services on infant and young child feeding. Current advancement in technology had led to greater implementation of video for instruction [17].

One of the investigators had conducted a study to assess the knowledge and practice of breastfeeding in rural community of West Bengal. A pre experimental approach with single group pre test - post test design was conducted were 30 postnatal mothers selected through convenient sampling technique. A structured interview schedule and observational checklist were used to see the effectiveness of video based teaching programme on breastfeeding [18].

The theoretical framework of this study was based on Albert Bandura’s “Social Cognitive Theory (1962)”. Social cognitive theory is a learning theory based on the ideas that people learn by watching what others do within the context of social interactions, experiences, and outside media influences [18].

In this theory, the postnatal women were encouraged to:

- Observe and imitate the behaviors of others
- See positive behaviors modeled and practiced
- Increase their own capability and confidence to implement new skills
- Experience support from their environment in order to use their new skills.

The video of the this study was based on this model which explains how the postnatal mother reenacted the model of breast-feeding, they directly learn from the video which would help them to continue breast-feeding exclusively for six months with correct technique as learned and avoid dangerous practices of giving mixed feed and early introduction of complementary food.

Based on Social Cognitive Theory, the behavioral change of postnatal mother on breast-feeding is influenced by the following factors (Fig.1)

- **Environment:** It includes video based teaching programme and previous information received from relatives, friends, neighbors, health personnel, newspaper and TV /Radio that would influence personal factor and behavioural factor in terms of practice breastfeeding [18]
- **Personal:** The personal factor in this study includes educational qualification and parity of the postnatal mothers and knowledge of breastfeeding [18]
- **Behaviour:** The behaviors factors include practicing correct technique of breastfeeding. In this study investigator aims to identify the extent to which exposure to video based teaching programmed will bring change in knowledge and practice of breastfeeding. Investigator also wants to see the association and relationship between personal factor (Parity, educational status of mothers, knowledge of breastfeeding.) and behavioral factor (practice of breastfeeding) [18].

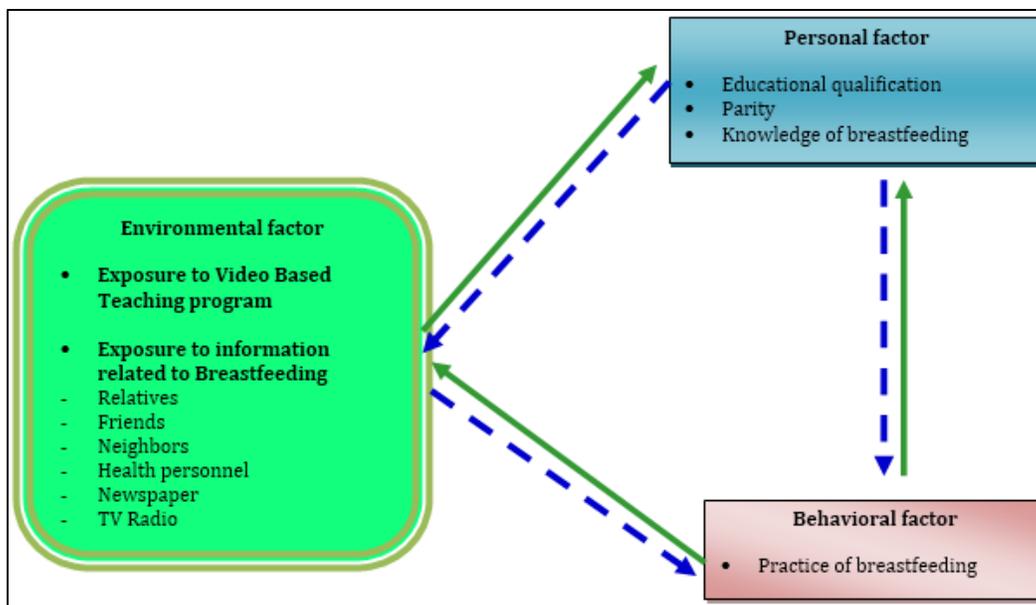


Fig 1: Conceptual framework based on Bandura’s social cognitive theory [18]

5. Result: The findings of the study reveals that a noteworthy result of breastfeeding duration and cost effective method of breastfeeding education [18].

6. Conclusion

Bandura's research shows that high perceived self-efficacy leads teachers and students to set higher goals and increases the likelihood that they will dedicate themselves to those

goals. Self-regulation is the process by which an individual sets future goals and manages their behavior and plans to accomplish them. It operates under individual everyday classroom functions such as goal setting, self-monitoring, and self-influence. In other words, when a student or teacher decides to replicate an observed behavior, that student or teacher's self-efficacy provides them with the confidence to attempt to perform the observed behavior.

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8. Conflict of interest

None declared

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