



THE EFFECT OF TIMSS ASSESSMENT FRAMEWORK IN IDENTIFICATION OF LEADERSHIP TRAITS IN STUDENTS

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Abstract

The study was designed to explore the effect of TIMSS framework in identification of leadership traits of the students which are directly related to the cognitive domain given in TIMSS assessment framework. The study was Ex-post facto in nature. Population for the study was all the students of grade 4. The sample was collected through convenient sampling technique and the researcher selected students of grade 4 of private schools of Lahore. The researcher conducted 2 tests. 1 of Mathematics and 2nd of Science. After getting the test result the researcher gave a questionnaire related to the leadership traits to the same sample and then analyzed its results. The research has shown that the TIMSS (Trends in International Mathematics and Science Study) is helpful in identification of leadership traits of students. The correlation was applied. The results show positive correlation in knowledge domain, moderate positive correlation in reasoning and strongly positive correlation in application domain and leadership traits.

Keywords: TIMSS, Cognitive domain, Leadership Traits, Single nation curriculum.

Introduction

Schools are expected to transmit not only knowledge to younger generations but to improve their other skills like reasoning and application so that we can have Leaders in future. It is clear that a basic understanding of mathematics and science is required in many jobs, and this will become increasingly so in the future. Government of Pakistan initiated the step to fulfill this purpose and implemented SNC (Single Nation Curriculum) which is integrated TIMSS (Trend in Mathematics and Social Science) framework. TIMSS framework has contributed effectively to improve the cognitive domain of the students with the integration of content domain.

From the different researchers the researcher concluded that the “students tendency is to explore and discover new properties is limited in pedagogical settings” (Bonawitz, Shafto, Gweon, Goodman,

Spelke, & Schulz, 2011). It suggests that young students who are taught principals in personal responsibility and proactive behavior can be better suited to explore and discover the world around them.

Critical thinking self-assurance, effective way of communication, teamwork and creativity all are the essential in order to raise up the tree of the success and prosperity. The need of the era/hour is to help individual to develop the skills which are practical as well as useful as people are no longer making their employs cool by affectation or posing to the possess skills which in actual they don't have. We know that critical thinking self-assurance, effective way of communication, teamwork and creativity all are the essential in order to raise up the tree of the success and prosperity. The need of the era/hour is to help individual to develop the skills which are practical as well as useful as people are no longer making their employs cool by affectation or posing to the possess skills which in actual they don't have. (Torwali Zubair)

What is TIMMS?

TIMMS is an entrenched international assessment framework for the Grade four and Grade Eight. It has a number of trend series from 1995. It's data is being used in many countries for evaluating the effectiveness of their educational systems in a global context, due to its effectiveness many new countries are joining TIMSS in each cycle of year. Pakistan has also adopted its framework (National Educational Policy 2020) as it is providing effective feedback in assessing not only knowledge but also reasoning and application skills. TIMSS provides both content as well as cognitive domain in the subjects of Science and Mathematics for 2 grades i.e class 4th and class 8th only. Cognitive domain for grade fourth as well as grade Eight is same i.e Knowing Applying and Reasoning (Mullis and Martin (Eds.), 2017, p.23-24.

Who is a Leader?

A leader is a person who has a perfect and a clear vision, he has courage, integrity, trustworthiness, modesty and a clear focus. An individual who is a strategic planner and believe in synergizing and teamwork. He is not a speaker only, he is the one who always seeks to understand first than to be understood. He is the best in taking the performance of the team up. (Stephen Covey 2020)

What is Leadership?

Leadership is a continuous process of communicating to the followers about their potential/skills and value so clearly that they come to see those in themselves. While talking about the leadership, we can also say that it is a process of social inspirations which help us to exploit the determinations of an individual's towards achieving the common goals. (Schunk, Pintrich, & Meece, 2008). **Traits/Habits of LEADERSHIP by Franklin Covey.**

Trait can be describe as a characteristics/habits of a person that is reflected or reveal the different tendencies including emotional cognitive, and even behavioral. Selected habits for the research are as follows.

Habit#1: Be Proactive

This habit let the leader to believe that he/she is in charge. Individuals emphasis and act or perform according to their control and influence in spite of what they can't. (Covey 2013). Researchers agree with the concept of inspiring young learners to take personal initiative in learning. A study published in 2011 by MIT's Department of Brain and Cognitive Sciences investigated traditional method of teaching and activity method of teaching and its impact student's discovery and exploration skills. The research shows the significant difference. The researcher concluded that pedagogical setting effects a lot on the tendency to explore and discover new properties. (Bonawitz, Shafto, Gweon, Goodman, Spelke, & Schulz, 2011). The researchers suggests that students who are taught principals in personal responsibility and proactive behavior can be better suited to explore and discover the world around them.

Habit #2: Begin with the end in mind

This trait/habit ensure that a leader is able to explain clear procedures of success and must have a predefined objective, plan or goal which he/she wants to achieve (Covey 2014). Researchers suggested that all the schools who promote goal setting the the classroom can play a significant role in shaping student's personal goals, motivation, and accomplishment (Wolters, 2004). Furthermore the environment

also plays a crucial part. In 2020, the Review of Educational Research published a meta-study on goal settings as research shows that it has positive effect in academic situations.

Habit#3: Put First thing First

It's about time management's skills where a leader can prioritize the works and is capable to achieve their most important goals instead of working constantly on urgent or unimportant tasks. It helps an individual to stimulate the strong ethic, adaptability and reasoning skills. Self-discipline and prioritization theory has been well documented through empirical research. Positive Psychology Center published a study and analyzed two groups of grade eight students and monitor that how self-disciplined versus non self-disciplined students performed academically. The study shows that "Highly self-disciplined students outperformed their more impulsive peers on all the academic performance variables, including their report cards, achievement and competitive tests and even attendance. (Duckworth & Seligman, 2005). Dr. Robert Marzano identifies in his book *What Works in School*, the essential to inculcate a sense to self-discipline and responsibility in children. He also summaries a lot of educator-identified areas of "successful schools" which are providing motivational trainings to the students, implementing self-discipline and responsibility program; monitoring students learning goals; involving students in designing of projects programs and training and supporting parents.

Habit#4: Think Win-Win

Leader team up with the followers more effectively by building high-trust relationships. Here he/she use exceptional endowment to value other's abilities and skills. (Covey 2020). Think win-win philosophy of Covey is founded on the principles of Mary Parker Follett's early work in conflict resolution. Follett is often known as one of the leading females futurist in the field of organizational behavior and she work a lot for developing basic concepts in conflict resolution and management theory. She has given integrated approach to forms the basis of what is commonly known as "win-win" now a days. (Tonn, 2033)



In a research paper published by the National Association of School Psychologist (NASP), the researchers clarified that conflict can be natural as well as inevitable, there has been noteworthy increase in intense conflicts in school. The NASP more pointed out that “experts in the area of conflict resolution agree that schools must purposefully teach students all the effective and best way of conflict resolution skills, because they may not acquire such skills incidentally” (Chittooran & Hoenig 2004). A study published by the Society for Research in Child Development investigated the effects of conflict resolution training with young children. It concluded that students must trained with constructive strategies to resolve conflict, than untrained students can develop in unhealthy ways that are destructive to them and the personnel all around and last integrating conflict training into an academic setting increases the probability that conflict programs will be adopted by the children (Stevahn, et. A;.,2000).

Habit#5: Seek first to understand, than to be understood

Leaders always listen attentively to the others, and then respond which help them to maintain healthy relationship. This trait help a leader to inspire the individuals by getting and developing not only required but also deep understanding of others viewpoints and their needs

Habit#6: Synergize

It expedite the leader to cultivate the solutions which are innovative and can control the leverages diversity, it must also capable to placate all the vital participants and work as a team even in a multicultural world. (Covey 2013)

Habit#7: Sharpen the Saw

It accelerate inspiration, dynamism, work as well as balancing of personal life by managing time for continuity or recommencing the accomplishments. And then in the end as a result we can have self-discipline, self-reliance and confident personnel. The one who always strive to have/spend a healthy life for all.

Number of studies have found a strong link between academic success and improving mental, physical and social capability. A study performed in Sweden analyzed the statistical difference between students' academic performance in schools that took part in a national physical exercise intervention program and those that did not. The study concluded with 95% confidence that children who participated scored statistically significantly higher than those who did not participate (Kall, et.al. , 2013)

Significance of Study

As SNC (Single Nation Curriculum) along with TIMSS framework is implemented in PAKISTANI's school, so this study will help us to know that how much TIMSS framework can help us out in identification of leadership traits of the students and can be beneficial to have a good leaders in future.

The research will definitely help us to identify the pattern of leadership traits development of an individual because skills are the basic requirement for an effective leadership. Researcher wants to explore that either the TIMSS assessment framework helps anyone to identify an effective leader. The Leader, the one who doesn't have only the knowledge but also the skills and can apply their knowledge and can provide reasons on the basic of their knowledge and experiences.

Objective

- To identify the effect of TIMSS assessment framework in identification of Leadership traits of an individual.
- To explore relationship of leadership trait and cognitive domain of individuals.

Limitations of the Study

As SNC is implemented till primary level that is till grade 5. So the study is limited to primary level. Also the data has been collected from one school, and a greater sample would be of more knowledge and help generalize the results on SNC implemented schools of Pakistan.

Methodology

The goal of the study was to figure out the effect of TIMSS in identification of the leadership traits of the students. The research was Ex-post facto in nature.

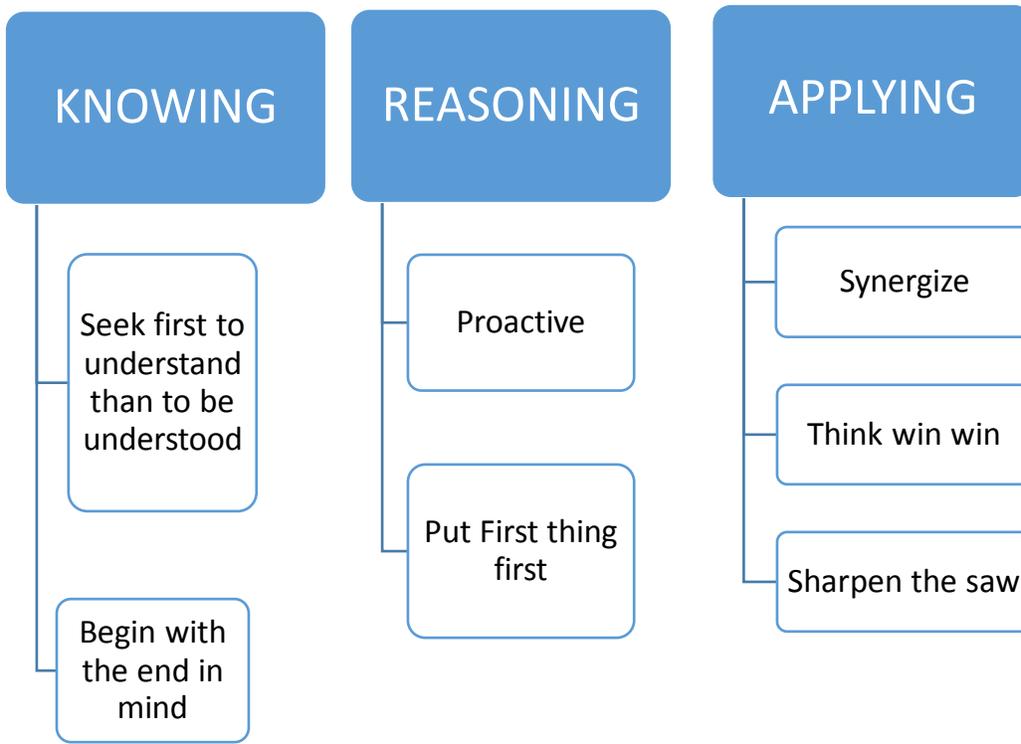
Research Instruments

Researcher adopted the pre developed for item selection of mathematics and science in all the 3 cognitive domains mentioned in TIMSS. And second instruments was a structured questionnaire, which was developed by the researchers related to the leadership traits.

Results and conclusion

As far as knowledge concerns, the results shows that cognitive domain that is knowledge is associated with 2 leadership traits “Begin with end in mind” and “Seek first to understand and then to be understood” and are significant and positive correlated, $r(48) = .74, p < .01$. Furthermore, the results shows that cognitive domain that is “Reasoning and leadership traits “Be Proactive” and “Put first thing first” are moderate positive correlated, $r(48) = .67, p < .01$. Moreover, the results also shows that cognitive domain that is “Application” and leadership traits “Synergize”, “Think win win” and “Sharpen the Saw” are strongly positive correlated, $r(48) = .80, p < .01$.

From the research results the researcher was able to finalized the following relationship between the cognitive domains which are; knowing, reasoning and applying and the 7 leadership traits/habits.



The research shows that the TIMSS assessment framework is contributing in identifying and developing the leadership traits of the students and can be used to bring a positive change in improving the required cognitive domains which can help us to have a real leaders.

Research shows that TIMSS framework can be used in the schools for improving as well as development of the cognitive domain of the learners. On the other hand side, Stephen R, Covey’s 7 Habits OF highly Effective People are aligned with educational practices are effective at improving students accomplishment in an educational settings.

Recommendation

As the results are showing that TIMSS assessment framework can be helpful in polishing/promoting and even developing the leadership qualities in the students. Moreover by teaching students to be more focused, proactive, setting goals, developing cooperative relationships and to build

interpersonal and even intrapersonal emotional and social capacity, can improve learning outcomes, boost student proficiencies, and ensure the cultivation of skills that strengthen student's achievement.

The educators/teachers must take the combination of TIMSS framework and 7 Habits/traits to do well point students and to focus on social and emotional learning broadly by also focusing on the cognitive domain. Such learning will not only be supportive, but appears to be essential to student academic success.

Inter-provincial co-relation can be found among provinces of Pakistan. A comparison of outcomes of SNC with other curriculums can be made to check how leadership traits work with both curriculums. Further researchers can also do this research on middle or higher level. The effect of lesson planning with integrated leadership traits can also be explored.

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