INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT SOCIOLOGY & HUMANITIES

ISSN 2277 – 9809 (online)
ISSN 2348 - 9359 (Print)

An Internationally Indexed Peer Reviewed & Refereed Journal

www.IRJMSH.com
www.isarasolutions.com

Published by iSaRa Solutions

A Study of the Relationship between Gardner's Multiple Intelligences and Self-Confidence, Self-Efficacy and Academic Achievement of Students of Physical Education

Basavaraj V. Dammalli
Research Scholar,
Department of Physical Education and Sports,
Karnatak University, Dharwad &
Physical Education Director,
ARM First Grade College, Davanagere
bd28042013@gmail.com

Dr. B. M. Patil
Former Vice Chancellor (Acting), Karnatak University
Dean Faculty of Education,
Chairman & Director (Rtd)
Department of Physical Education and Sports,
Karnatak University, Dharwad
bmpatil.dwd@gmail.com

Abstract

Howard Gardner focuses more on domains of intelligence and less on mental processes. Self-confidence is the conviction that, one is generally capable of producing desired results. Self-efficacy refers to one's capability to successfully perform specific tasks and behaviours or an estimate of one's capacity to deal with any particular task. Academic achievement is considered as composite criteria and not a unitary one. The researcher in the present paper aims at studying the relationship between Gardner's Multiple Intelligences and Self-Confidence, Self-Efficacy and Academic Achievement of students of Physical Education. The study undertaken was descriptive research. The Pearson's Product-Moment Coefficient of Correlation technique was used to find out the relationship between selected variables. Multiple intelligences are having positive and significant relationship with self-confidence, self-efficacy and academic achievement of students of physical education.

Key words : *Multiple Intelligences ; Self-confidence ; Self-efficacy ; Academic Achievement*

Introduction

Multiple Intelligences

According to Gardner, Multiple intelligences or cognitive competence can be better described as a set of an individual's multiple abilities, talents, and mental skills related to a multiple number of domains of knowledge in a particular cultural setting (Gardner, 1983). According to Gardner, each intelligence is a relatively autonomous intellectual potential which is capable of functioning independently of others. All the eight components of multiple intelligences suggested by Gardner, namely, Verbal-linguistic Intelligence ; Logical-mathematical Intelligence ; Visual-spatial Intelligence ; Bodily-kinesthetic Intelligence ; Musical Intelligence ; Intrapersonal Intelligence ; Interpersonal Intelligence ; Naturalistic Intelligence were used in the present

investigation in order to find their relationship with self-confidence, self-efficacy and academic achievement of students of physical education.

Verbal-linguistic Intelligence : This involves the ability to read, write and speak a language to express and appreciate complex meanings. It also involves the ability to use language in order to remember information.
Logical-mathematical Intelligence : It is the capacity to reason, calculate, recognize patterns and handle logical thinking.
Visual-spatial Intelligence : It is the ability to manipulate and create mental images in order to solve problems. This intelligence is not limited to visual domains. Gardner notes that visual-spatial intelligence is also formed in blind children.

Bodily-kinesthetic Intelligence : It was operationally defined as neurological praxis, which is the ability to plan, execute in a synchronized manner, and continuously readjust physical skills during purposeful motor activities.
Musical Intelligence : It encompasses the capability to recognize and recognize and compose musical pitches, tones and rhythm.
Intrapersonal Intelligence : It is the ability to understand one's own feelings and motivations.
Interpersonal Intelligence : It is the ability to understand and discern the feelings and intentions of others.
Naturalistic Intelligence : It enables human beings to recognize, categorize and draw upon certain features of the environment. It 'combines a description of the core ability with a characterization of the role that many cultures value.

Self-confidence

Self-confidence is an attitude which allows individuals to have positive and realistic views of themselves. It effects directly or indirectly student's adjustment behaviour as well academic motivation and further these factors affect student's participation in academic activities. Encouragement and motivation given by classroom teachers will help students to achieve higher goals and in shaping their destiny. Self-confidence is confidence in oneself and one's own abilities and powers. It is an attitude which allows individuals to have positive and realistic perception of themselves.

Self-Efficacy

The term self-efficacy was introduced by Bandura (1977) as a part of his social cognitive theory. He used the concept of reciprocal determinism to explain that each behavioural, personal, and environmental factor influences and is also influenced by the other factors. Later, he proposed that, "People's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true." Self-efficacy represents the belief that an individual possesses and is defined as, "the beliefs in one's capability to organize

and execute the courses of action required to produce given attainments". Bandura further emphasized that self-efficacy beliefs are situation-specific; therefore, students must undertake and perform the activities that they believe. They have the capability of handling but tend to avoid situations that are believed to challenge their capabilities.

Academic Achievement

The term academic achievement refers to "the knowledge attained or skills developed in the school subjects, usually designated by the test scores, or by marks assigned by teachers or both. Achievement encompasses student ability and performance, it is multi-dimensional, it is intrinsically related to human growth and cognitive, emotional, social, and physical development ; it reflects the whole child ; it is not related to a single instance, but occurs across time and levels, through a student's life in public, in school and post-secondary years and working life".

An Overview of Research on Multiple Intelligences

The investigator analysed various types of studies on Multiple Intelligences. Among these studies of researchers, such as, Raissi and Zainali (2016), Wayan, Nyoman (2016) and Beichne (2011) directly correlated multiple intelligences and achievement of students. Researchers like Magda and Moati (2016), Eraslam and Ali (2016), Wayan and Nyoman (2016), Tamilsevi and Geetha (2015) Gangadevi and Ravi (2014), Ghamrawi1 (2014), Alex (2014), Ali, Susan and Hamze (2013), Nnamdi and Udogu (2013), Davillier (2012), Angela and Peter (2012), Poornima and Reddy (2011), Abdulkadir (2011), explored the impact of Multiple Intelligences based strategies on a range of student performance factors.

Several researchers, such as, Davoudiand Milad (2016), Yadav, R. (2015), Taheri and Zarei (2015), Othman (2013), and Mahasneh (2013) proved multiple intelligence proved as a regulating factor for decisive psycho-social variables. The analysis clearly indicates luxuriousness of experimental studies extrapolating Multiple Intelligence as independent variable. Very few studies were conducted on the predictive effect of Multiple Intelligences. Different studies from 1996 to 2016 were included in the review related to Self- efficacy. Among these the experimental studies of Yaman (2015) studied effect of Self-efficacy and academic achievement. Adeoye & Emeke (2009) studied the relative effect of emotional intelligence and self-efficacy training on the scholastic achievement of Nigerian secondary school students. Jooetal (2000) conducted a study on the effect of student motivation on performance in Web Based Instruction (WBI). Sonmez (2016) developed a Self-efficacy Scale while conducting a study on prospective teachers' perceptions and views about the implementation of the constructivist approach. Jennifer, Tony and Avi (2016) conducted a study on factors affecting Under Graduate students STEM Achievement and Retention and observed that Self-efficacy is a contributing factor. Palmer (2015) conducted an intervention program for elementary science teachers to improve their Self-efficacy.

Among the correlational studies Gharetepeh, Safari, Pashaei, Razaei, Kabaf (2015) indicated that emotional intelligence is positively related to Self-efficacy and can be used to predict the academic achievement. Cezmi,Yunus and Ismail (2014) examine the relationship between teacher Self-efficacy and burnout. Goulao (2014) examines the relationship between the academic Self -efficacy of an adult learners group in an online learning context with their actual performance. Meghan (2013) described the relationship between the psychological state of Mathematics teachers and students achievement in Mathematics. Ashraf (2012) studied the relationship between teachers' Self-efficacy and their perceived job performance. Wood & Locke (2010) examined the relationship between self-efficacy and grade goals to academic performance in college courses. Ruchan (2010) studied the correlation between Self-efficacy beliefs and academic achievement. Elias *etal*., (2010) studied achievement motivation and Self-efficacy inrelation to adjustment among University students. Thus the researcher in the present study aims at studying the ***"Effect of Gardner's Multiple Intelligences on Self-Confidence, Self-Efficacy and Academic Achievement of Physical Education Students".***

Objectives of the Study

The objectives of the present study are :

1. To study the relationship between multiple intelligences and self-confidence among the students of Physical Education.
2. To study the relationship between multiple intelligences and self-efficacy among the students of Physical Education.
3. To study the relationship between multiple intelligences and academic achievement among the students of Physical Education.

Hypotheses of the Study

In pursuance of the objectives the study, the following research hypotheses are set up :

1. There is a positive and significant relationship between multiple intelligences and self-confidence of students of Physical Education.
2. There is a positive and significant relationship between multiple intelligences and self-efficacy of students of Physical Education.
3. There is a positive and significant relationship between multiple intelligences and academic achievement of students of Physical Education.

Research Method

The study undertaken was ***descriptive research*** which attempts to describe and analyse the present conditions.

The Sample

The population covers the students of Physical Education College studying in Mumbai – Karnataka area. The sample for the present investigation consisted of 600 students selected from various B.P.Ed. colleges using stratified sampling method.

Tools Used

The following tools were used for the collection of essential data

- A Battery of Multiple Intelligences Scales – constructed and validated by the Instructor will be used.
- General Information Schedule.
- *Self-confidence Scale :* Self-confidence of subjects were assessed by using self-confidence Inventory developed by the investigator using scientific procedure. It consists of 100 items with positive and negative items. The reliability of the instrument was 0.79.
- *Self-efficacy Scale :* Self-efficacy scale was constructed by **Schwarzer, R., & Jerusalem, M. (1995).** The Tool Perceived Self-Efficacy reflects an optimistic self-belief (Schwarzer, 1995). Reliability of the scale is 0.80.
- For Academic Achievement : The marks obtained by the students in in second semester examination was considered.

Collection of Data

The investigator personally visited the selected B.P.Ed. colleges for the collection of data.

Statistical Technique

The Pearson's Product-Moment Coefficient of Correlation technique was used to find out the relationship between the selected variables like multiple intelligences, self-confidence, self-efficacy and academic achievement of B.P.Ed. students.

Analysis & Results

(i) Self-confidence

Correlation between Multiple Intelligences and Self-confidence of Physical Education Students

In order to investigate the relationship of the multiple intelligences with the dependent variable – self-confidence, the Pearson's correlation coefficient technique was used in order to find out the relationship between selected independent and dependent variables. In order to test the significance of obtained **'r',** the appropriate **'t'** test was used. The values of **'r'** and **'t'** with regards to the variable self-confidence their significance are presented in the following respective tables.

Table – 1: Correlations of Multiple Intelligences with Self-confidence of Students of Physical Education

Multiple Intelligences	Correlation Coefficients –Self-confidence		
	"r"	"t"	Significance (at 0.05 level)
Verbal Linguistic Intelligence	0.6337	20.0297	Yes
Logical Mathematical Intelligence	0.7166	25.1230	Yes
Visual Spatial Intelligence	0.6350	20.1016	Yes

Bodily Kinesthetic Intelligence	0.7366	26.6367	Yes
Musical Intelligence	0.6587	21.4085	Yes
Intrapersonal Intelligences	0.6660	21.8356	Yes
Interpersonal Intelligences	0.6977	23.8129	Yes
Naturalistic Intelligence	0.7448	27.2972	Yes
Total Multiple Intelligences	0.9452	70.7938	Yes

The interpretation of the above table reveals the following :

1. There is a positive significant relationship between the Multiple Intelligences dimension– verbal linguistic intelligence and self-confidence of students of physical education.
2. There is a positive significant relationship between the Multiple Intelligences dimension– logical mathematical intelligence and self-confidence of students of physical education.
3. There is a positive significant relationship between the Multiple Intelligences dimension– visual spatial intelligence and self-confidence of students of physical education.
4. There is a positive significant relationship between the Multiple Intelligences dimension– bodily kinesthetic intelligence and self-confidence of students of physical education.
5. There is a positive significant relationship between the Multiple Intelligences dimension– musical intelligence and self-confidence of students of physical education.
6. There is a positive significant relationship between the Multiple Intelligences dimension– intrapersonal intelligence and self-confidence of students of physical education.
7. There is a positive significant relationship between the Multiple Intelligences dimension– interpersonal intelligence and self-confidence of students of physical education.
8. There is a positive significant relationship between the Multiple Intelligences dimension– naturalistic intelligence and self-confidence of students of physical education.
9. There is a positive significant relationship between the total Multiple Intelligences and self-confidence of students of physical education.

ii) Self-efficacy

Correlation between Multiple Intelligences and Self-efficacy of Physical Education Students

Table – 2 : Correlations of Multiple Intelligences with Self-efficacy of Students of Physical Education

Multiple Intelligences	Correlation Coefficients –Self-efficacy		
	"r"	"t"	Significance (at 0.05 level)
Verbal Linguistic Intelligence	0.5938	18.0489	Yes
Logical Mathematical Intelligence	0.6891	23.2563	Yes
Visual Spatial Intelligence	0.5922	17.9725	Yes
Bodily Kinesthetic Intelligence	0.6726	22.2280	Yes
Musical Intelligence	0.6304	19.8598	Yes

Intrapersonal Intelligences	0.6368	20.1948	Yes
Interpersonal Intelligences	0.6561	21.2604	Yes
Naturalistic Intelligence	0.7040	24.2378	Yes
Total Multiple Intelligences	0.8909	47.9735	Yes

The interpretation of the above table reveals the following :

1. There is a positive significant relationship between the Multiple Intelligences dimension– verbal linguistic intelligence and self-efficacy of students of physical education.
2. There is a positive significant relationship between the Multiple Intelligences dimension– logical mathematical intelligence and self-efficacy of students of physical education.
3. There is a positive significant relationship between the Multiple Intelligences dimension– visual spatial intelligence and self-efficacy of students of physical education.
4. There is a positive significant relationship between the Multiple Intelligences dimension– bodily kinesthetic intelligence and self- efficacy of students of physical education.
5. There is a positive significant relationship between the Multiple Intelligences dimension– musical intelligence and self-efficacy of students of physical education.
6. There is a positive significant relationship between the Multiple Intelligences dimension– intrapersonal intelligence and self-efficacy of students of physical education.
7. There is a positive significant relationship between the Multiple Intelligences dimension– interpersonal intelligence and self-efficacy of students of physical education.
8. There is a positive significant relationship between the Multiple Intelligences dimension– naturalistic intelligence and self-efficacy of students of physical education.
9. There is a positive significant relationship between the total Multiple Intelligences and self-efficacy of students of physical education.

iii) Academic Achievement

Correlation between Multiple Intelligences and Academic Achievement of Physical Education Students

Table – 3 : Correlations of Multiple Intelligences with Academic Achievement of Physical Education Students

Multiple Intelligences	**Correlation Coefficients –Academic Achievement**		
	"r"	**"t"**	**Significance (at 0.05 level)**
Verbal Linguistic Intelligence	0.4848	13.5564	Yes
Logical Mathematical Intelligence	0.5744	17.1577	Yes
Visual Spatial Intelligence	0.5306	15.3090	Yes
Bodily Kinesthetic Intelligence	0.5667	16.8218	Yes
Musical Intelligence	0.5217	14.9528	Yes
Intrapersonal Intelligences	0.4741	13.1665	Yes

Interpersonal Intelligences	0.5339	15.4394	Yes
Naturalistic Intelligence	0.5900	17.8683	Yes
Total Multiple Intelligence	0.7356	26.5538	Yes

The interpretation of the above table reveals the following :

1. There is a positive significant relationship between the Multiple Intelligences dimension– verbal linguistic intelligence and academic achievement of students of physical education.
2. There is a positive significant relationship between the Multiple Intelligences dimension– logical mathematical intelligence and academic achievement of students of physical education.
3. There is a positive significant relationship between the Multiple Intelligences dimension– visual spatial intelligence and academic achievement of students of physical education.
4. There is a positive significant relationship between the Multiple Intelligences dimension– bodily kinesthetic intelligence and academic achievement of students of physical education.
5. There is a positive significant relationship between the Multiple Intelligences dimension– musical intelligence and academic achievement of students of physical education.
6. There is a positive significant relationship between the Multiple Intelligences dimension– intrapersonal intelligence and academic achievement of students of physical education.
7. There is a positive significant relationship between the Multiple Intelligences dimension– interpersonal intelligence and academic achievement of students of physical education.
8. There is a positive significant relationship between the Multiple Intelligences dimension– naturalistic intelligence and academic achievement of students of physical education.
9. There is a positive significant relationship between the total Multiple Intelligences and academic achievement of students of physical education.

Conclusion

From the above analysis, it is revealed that Multiple Intelligences dimensions – verbal linguistic intelligence, logical mathematical intelligence, visual spatial intelligence, bodily kinesthetic intelligence and musical intelligence, intrapersonal intelligence, interpersonal intelligence, naturalistic intelligence, as well as, total multiple intelligences are having positive relationship with the self-confidence of physical education students. Thus, these factors will act as a booster for the self-confidence of the physical education students.

From the above analysis, it is revealed that Multiple Intelligences dimensions – verbal linguistic intelligence, logical mathematical intelligence, visual spatial intelligence, bodily kinesthetic intelligence and musical intelligence, intrapersonal intelligence, interpersonal intelligence, naturalistic intelligence, as well as, total multiple intelligences are having positive relationship with the self-efficacy of physical education students. Thus, these factors will act as a booster for the self-efficacy of the physical education students.

From the above analysis, it is revealed that Multiple Intelligences dimensions – verbal linguistic intelligence, logical mathematical intelligence, visual spatial intelligence, bodily kinesthetic intelligence and musical intelligence, intrapersonal intelligence, interpersonal intelligence, naturalistic intelligence, as well as, total multiple intelligences are having positive relationship with the academic achievement of physical education students. Thus, these factors will act as a booster for the academic achievement of the physical education students.

Educational Implications

All types of intelligences under multiple intelligences have considerable influence upon the achievement of students. So it is essential that student should try to take steps to develop their respective intelligences for the effective learning.

In order to improve the verbal-linguistic intelligence of students adequate opportunities should be provided to them through curricular and co-curricular activities. The various activities were encouraged them to use library in its maximum to develop the vocabulary and writing skills.

In enhance the logical-mathematical intelligence, students should seek the help of teachers to learn through problem solving methods, to draw inferences, to generalize the ideas, to make predictions, to give reasons, and to make conclusions.

Visual-spatial intelligence was another domain academic achievement, and was required by students for manipulating the space. To improve in this area, students should find time to learn through computer, to draw graphs, and maps, to use mind maps, and to draw diagrams.

Bodily-kinesthetic intelligence was found to be related with participation in co-curricular activities involving club activities, physical exercises, sports, and learning through experimentation, will yield better results than learning through syllabus only.

It may be noted that music is an art, which acts as both an entertainment and also a medium of learning. Students are fond of music, so if they try to develop their musical intelligence, it will positively influence academic achievement of students.

Intrapersonal intelligence helps the students understand their strengths and weaknesses. Students can utilize the strengths in learning process and overcome the weaknesses. Students should take extra care to participate in yoga, prayer, and meditation, so that their intrapersonal intelligence enhances.

Interpersonal intelligence augments the co-operative learning, team work, and learning through group discussion. It also will inculcate in students the qualities like tolerance, co-operation, sympathy, and adjustment.

Learning through field visits, educational tour, rearing of pet animals, game birds, maintaining aquarium, terrarium, vivarium, gardening, participation in eco-club activities, and awareness on environmental pollution, and its controlling measures can encourage in developing naturalistic intelligence.

The physical education programmes should be modified with the changes of the present educational scenario. It should be supplemented with innovative methods and teaching strategies. The student teachers should be given proper training in Multiple intelligences based teaching, so that they can transact the curriculum effectively in the physical education colleges giving due importance for the development of Self-efficacy as well as Self-confidence abilities of students.

Reference

Abilash, C. & Annaraja, P. (2005) *Awareness on Biotechnology and Multiple Intelligences of the College Students*. Unpublished M.Phil. Dissertation, Tirunelveli Manonmaniam Sundaranar University.

Armstrong, T. (2000) *Seven Kinds of Smart : Identifying your Multiple Intelligences* . New York : A Plume Book.

Ashmore, L. H. (2003) *Website Usability and the Theory of Multiple Intelligences*. Dissertation Abstract International, 64(5), 1610.

Dome, N. A. (2004) *A Study of Making the Connection between Technology and Multiple Intelligences : The Effect of Instructing Strategy on Course Completion Rate and Motivation of at-risk Students*. Alleant International University, Graduate School of Education, Sandiega.

Elliot, E. (2005) *Relationship of Multiple Intelligences Instructional Approaches and Student Achievement Indicators in Secondary School Classroom*. Pro-quest Dissertations and Theses, Cederville University, Retrieved December 2009 from http://www.eric.ed.gov.in.ISBN 9780542408946, 98

Gardner, H. (1993) *Frames of Mind : The Theory of Multiple intelligences s* (2nd Ed.). New York : Basic Books.

Gardner, H., and Hatch, T. (1989) *Multiple Intelligences go to School : Educational Implications of the Theory of Multiple intelligences* . Educational Research, 18 (8), 4-9.

Gardner, H. (1983) *Frames of Mind : The Theory of Multiple Intelligences*. New York: Basic Books.

Good, C. V. (1950) *Dictionary of Education.* New York : McGraw-Hill.

Krishna, M. (2004) *Effectiveness of Strategies Involving Multiple Intelligences Theory on the Achievement in Mathematics at Secondary Level*, Master's Thesis. M.G. University, Kerala.

Malm, N. M. (2001) *Distribution of Gardner's Multiple Intelligences among Students and Faculty in Associate Degree Career Programs*. Dissertation Abstract International, 62(1)

Priviti, R. A. (2003) *The Effects of Musical Keyboarding Instruction on the Self-efficacy Scores of Middle School Students as measured on the multiple Intelligences Developmental assessment scales.* Dissertation Abstract International, 64(3), 840.

Rockwood, A. C. (2002) *Bodily-kinesthetic Intelligence as Praxis : A Test of its Instructional Effectiveness*. Dissertation Abstract International, 63(12), 4223.

Scott, O. (1996) *Multiple intelligences s and the Gifted Identification of African-American Students*. Dissertation Abstract International, 57(7), 2788.

Steinberger, E. D. (1993) *Improving Student Achievement*. Virginia : American Association of School Administrators.

Trujillo, J. (2003) *The Effects of Multiple Intelligences Teaching Strategies on the Cognitive Academic Language Proficiency of Subtractive Bilingual Students*. Dissertation Abstract International, 63(8), 2774.

Webster, A. (2011) http://www.merriam-webster.com.

Woods, G. C. (2004) *Student Perception of web-based Technologies, Principles of Good Practice and Multiple Intelligences*. Education and Technology, 904.

भारतीय भाषा, शिक्षा, साहित्य एवं शोध

ISSN 2321 – 9726

WWW.BHARTIYASHODH.COM

INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT SCIENCE & TECHNOLOGY

ISSN – 2250 – 1959 (0) 2348 – 9367 (P)

WWW.IRJMST.COM

INTERNATIONAL RESEARCH JOURNAL OF COMMERCE, ARTS AND SCIENCE

ISSN 2319 – 9202

WWW.CASIRJ.COM

INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT SOCIOLOGY & HUMANITIES

ISSN 2277 – 9809 (0) 2348 - 9359 (P)

WWW.IRJMSH.COM

INTERNATIONAL RESEARCH JOURNAL OF SCIENCE ENGINEERING AND TECHNOLOGY

ISSN 2454-3195 (online)

WWW.RJSET.COM

INTEGRATED RESEARCH JOURNAL OF MANAGEMENT, SCIENCE AND INNOVATION

ISSN 2582-5445

WWW.IRJMSI.COM

JOURNAL OF LEGAL STUDIES,POLITICS AND ECONOMICS RESEARCH

WWW.JLPER.COM