

EFFECTIVENESS OF DEVELOPED WEB BASED INSTRUCTIONAL
MATERIAL ON UNDERSTANDING THE SELF FOR B.ED
STUDENTS IN TERMS OF SELF ESTEEM, SELF
PERCEPTION AND SELF CONFIDENCE

Pre-Presentation Summary

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SUMMARY

1.0.0 INTRODUCTION

The present study entitled “Effectiveness of developed web based instructional material on understanding the self for B.Ed. students in terms of Self Esteem, Self Perception and Self Confidence” belongs to the area of Educational Technology. In this study the researcher explored the new method of teaching i.e. Web Based teaching and developed the e-content on Understanding the Self which is the course of B.Ed. IV semester of affiliated colleges of Devi Ahilya Vishwavidyalaya Indore. The incorporation of technology is now become a demand of Education. Due to pandemic various educational institutions have discontinued for a longer time. These circumstances need an alternative educational practice which help to protect our students, faculties, staff, societies and nation as a whole. In the present scenario a teacher has to be ready with his objectives, tools and techniques. For a wonderful teaching, tool should be powerful, pedagogy should be innovative and teacher should be motivated. A teacher should understand that individuals are coming from different back grounds; they are having different talents, ideas and interests. These ideas and talents need execution, which can be possible through contemporary teaching. Contemporary teaching involves group work, expression, discussion of ideas, evidences and creativity etc. Technology can only boost the potential of human beings. It can't be helpful in the absence of skills. None of the technology can compete the skills of the teacher. It can only assist the teacher to achieve the goals of Education. The Union Cabinet in July 2020 approved the New Education Policy which emphasize on Teacher Training, Blending of technology with learning,

Content, Curriculum and Pedagogy as well. Now a day's education is not only based on Psychology but also on technology. For various skill developments in learners, recent trends are needed. Information and Communication Technology can help to provide these trends which are a part of Educational Technology. Educational Technology is a dynamic field of knowledge with consequent application in the modern scientific world. Educational Technology refers to the use of principles of Science, Technology, Psychology, Management, Literary and other subjects for achieving the objectives of the education. Educational Technology was regarded as being concerned with the preparation and use of instructional material leading to the use of technology and internet. Web Based Instructional Material can be used as one of the tool for teaching learning process.

1.1.0 WEB BASED INSTRUCTIONS

Khan (1997) defined Web Based Instructions as “a hypermedia based instructional Programme which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported.”

Relan and Gillami (1997) defined WBI as “The application of a repertoire of cognitively oriented instructional strategies within a constructivist and collaborative learning environment, utilizing the attributes and resources of the World Wide Web.”

There is a common thing which arise from above definitions is that WBI take advantage of Internet and World Wide Web to deliver information. These instructions facilitate multiple levels of instructions on World Wide Web. Web Based Instructional

material provides flexibility in time, place and speed. Students can learn at their own pace. Students can work in their choice of location. Students can work at the time of their choice. Electronic communication with lecturers and other students is possible. Web based instructions are also environmental friendly. Students who missed school are also able to go to a website and find instructional materials they missed during their absence. This Instructional material can be provided in synchronous as well as asynchronous mode. Teacher can easily prepare their own material and can provide to their students with the help of various online digital platforms such as DIKSHA, SWAYAM, LMS, MOODLE, PODCAST, WEBSITE etc. Web Based Instructions are of two types i.e. asynchronous and synchronous.

- **Asynchronous:** In this style, the course information or learning experiences are passed to the learners through e-mail, discussion forum, web pages, web logs, blogs, wikis, LMS etc. As a result the teachers and learners do not interact simultaneously. Messages/ information/ reading material are posted on a forum or platform or web page or send as an e-mail. At an undefined time later, a reply is provided. Any follow up regarding material and queries are dealt through messages with requisite delay..
- **Synchronous:** Here the communication between the teacher and students directly occurs in an online chat room or through live audio-visual conferencing. It allows them properly to gather at specified time for communicating with each other regarding the course material. As a result, a teacher can provide valuable information; lecture or share learning experiences with his/her students.

1.2.0 UNDERSTANDING THE SELF

Understanding the Self is the exploration of one's own strengths and weaknesses which can be developed through self reflection. When a person is self aware, he/she is better at understanding himself/herself. Self is a symbol using individual, who can reflect upon his/her own behavior. Self concept is the sum total of a person's thoughts and feelings that defines the self as an object. Self concept consists of those attributes of individual which are perceived as characteristic of oneself, his/her social relationships, values and beliefs consciously. Self concept also governs the understanding of one's past and present relationship with environment. If anyone tend to see his/her identity through the position in society, friends and family, the needs and desires of the body and the emotional and intellectual expression of the mind so, Self Awareness is necessary to understand about the self. Self awareness is the ability to see oneself clearly and objectively through reflection and intro inspection. Being self aware is having a good knowledge and understanding of oneself including being aware of one's feelings and character. Practicing self awareness is about learning to better understand the feelings and behavior in a particular way. It provides the opportunity and freedom to change things about one, allows creating a life of one's own choice. Self awareness can make individual more proactive, boost individual's acceptance and encourage positive self development. **(Sutton, 2016)**. Self awareness allows anyone to see things from the perspective of others, practice self control, work creatively and productively and experience pride in ourselves and our work as well as general self esteem. **(Silvia & O'Brien, 2004)**. Self awareness is a tool and a practice that can be used anywhere, anytime to evaluate oneself and the situation. The root of all changes starts with self understanding. "Self

understanding is awareness and ability to understand one's own actions." The key benefits of understanding the self is to know anyone exactly where one can fit in life, whether in career or in relationship. It allows anyone to take towards happiness. Understanding the self focused mainly upon four aspects.

- **The Physical Self:** The physical self is the concrete dimension, the tangible aspect of the person that can be directly observed and examined.
- **The Social Self:** Social self refers to how a person relates to others. One may not have a lot of friends and relations while some other may always surrounded by a bunch of people or crowd.
- **The Competent Self:** Self Competence involves the interrelationship between self perception of personal worth and its efficacy.
- **The Inner Self:** Inner self is also known as psychological self. Inner self is made up of feelings and thoughts that a person has deep inside him/hers.

Understanding the self helps to develop a holistic and integrated self of personality. An individual can discover his/her potential and understands the strengths and weaknesses which leads to the successful life.

1.3.0 RATIONALE

The incorporation of technology is now become an obligation for the Education system in this pandemic scenario. As the deadly and infectious COVID-19 greatly affected our lives, economy and Global Education system. Previously the system of

education was teacher oriented, then it became process oriented but the need says that it should be learning outcome oriented by the effective and imperative use of technology. The requirement of the 21st century is to develop skills among learners such as Collaboration, Communication, Critical Thinking, Information Literacy, Media Literacy and Technology Literacy etc. Digital learning can provide a strong platform of learning to the learners in the present scenario. Digital learning is a type of learning that go along with the technology or instructional practice that makes productive use of automation. **Kearsley (1995)** indicated that technology amplifies human abilities, so it can help teachers to perform better in their courses but will not be of much helpful in the absence of skills and competencies of the teacher. Technology can be used as an effective and efficient tool that supports excellence in teachers. Teachers can develop their own e-content with the use of technology. E-content can begin to offer a variety of paths through the curriculum and offers student a self paced learning environment. E-content was found to have a beneficial effect on learner's achievement. **(Shanmagaraja 2011)**. E-content can be delivered in the form of Web Based Instructional Material. Web based instructional practices provide open, flexible and distributed learning experiences to the learners. Successful teaching depends upon the approach of communicating the subject matter to the learners. Web Based Instructional Material can be a great asset for achieving the objectives of course. Web Based learning environment can be used as a pedagogical tool which increased learning achievement and cognitive skills of learners. **(Lakon Pol et al. 2015)** Web Based learning offers huge opportunities for learning and access of a vast amount of knowledge and information. Student performance based on

five knowledge categories (remembering, understanding, applying, analyzing and evaluating) increased significantly when Web Based Tools were used. **(Kay 2011)**

Zacharis (2011), Phee et.al. (2012) and Schmit (2012), Usta (2011), Thrasher et.al. (2012), Gowri (2013), Nagalakshmi and Manickam (2011) found no significant difference in the performance of students between online and on campus group while **Kay (2011), Allen et. al. (2012), Cobb and Susan (2011), Altayeb and Banafi (2015)** , **Alias et.al. (2013), Suleiman (2014),Lakon Pol et.al. (2015), Gnanam (2014)** reviewed Web Based Instruction is better than traditional method thus due to lack of consistency in findings researcher has taken the area of Web Based Instructional Material.

Manikam and Devonathan (2011), Karthikeyan and Jayaraman (2011), Ponnalogu (2011), Sensory (2011), Shanmagaraja (2011), Kaur (2012), Gorjian (2012), Kaur (2013), Sabzalipour (2013), Suleiman (2014), Jharia (2016), Sekar (2016), Kaur and Kaur (2017), Divakaran (2018) and Bansal (2019) had developed Web Based Instructions for schools, Colleges by taking Achievement as variable. **Chahino (2011)** studied student personality type for online classes in different subjects, **George (2013)** studied scientific skills, **Panwar (2019)** studied on Problem solving ability, Collaboration skill and Academic Motivation, **Alhaz & Banafi (2015)** took Critical Thinking and Problem Solving as the variable, thus by review of literature researcher found a gap as none of the studies were related with the Psychological variables like Self Confidence, Self Perception and Self Esteem.

Sranamkam (2012), Caner et.al. (2013), Sabzalipour (2013), Aqel and Alem (2016) Kao (2011) Khokar (2015) found Web Based Instructional material as a significant parameter for teacher trainees. Researcher reviewed that very little work has been done in development of Web Based Instructional material for B.Ed. trainees.

From the related literature it was found that Web Based Instructions have been prepared for many subjects, **Comchiawchan and Khampusean (2012) , Wootipong (2013), and Rahnavard and Heider (2017), Yusuf and Saadon (2012) , Gorjin (2012) , Kousalya (2017)** prepared Web Based instructional material in English, **Manickam and Devonathan (2011) and Kaur (2012)** prepared for Biology, **Karthikeyan and Jayaraman (2011)** developed for Tamil Teaching, **Ponnalogu (2011), Jharia (2014)** and **Divakaran (2018)** developed WBI for Mathematics, **Panwar (2019)** developed for Political Science, **Bansal (2019)** developed for Science, **Sekar (2016)** for Psychology and **Sensory (2011)** developed Web Quest on Computer Network. **Vijay (2017)** implemented for Global Warming among under graduate students of Periyar University but none of the studies was found in Understanding the Self so this is taken in the present study. Understanding the self is not only a part of syllabus of B.Ed. but it is related with the individual's real experiences. Understanding the self helps the people to get success in life.

Self is a very subjective term which is defined in different ways by different individuals. The sense of being unique gives a sense of self. The sense of self refers to the awareness of who the person is and what makes him/her different from others. The self is a composite of person's thoughts and feelings, strivings and hopes, fears and fantasies,

his/her views of what he/she is, what he/she has been, what he/she might become. If anyone wants to be happy in his/her life, so it is important to understand him/her. There is no success without happiness. For getting success in life there is a need to identify one's strengths and weaknesses. Once the strengths and weaknesses are identified, the person can work on them and enhance the strengths and overcome the weaknesses. So by the self reflection one can give conscious direction to his/her life. Students can explore themselves and develop a vision of life for themselves. It helps to develop a holistic and integrated self of personality.

Jharia (2014) and Khokar (2015) found gender is independent of the treatment and both the genders served equally when taught through WBI but **Sekar (2016)** found female trainers scored more in Psychology than male trainers when taught through WBI. This creates an inconsistency in findings regarding Gender. So researcher took Gender as one of the variable for the study of effectiveness of the developed Web Based Instructional Material.

Jharia (2016) concluded that adjusted mean scores of achievement in mathematics of above average intelligence group is higher than low average intelligence group. **Kaur (2012)** found that high level of intelligent students scored higher when Biology taught through Web Based Instructions so the intelligence was taken as one of the independent variable to explore the effect of intelligence for psychological variables in the present study.

Begum (2020) found no significant effect of academic stream (Science, Arts and Commerce) on self esteem of students so the researcher took stream to see the effect of stream on other psychological variables.

Although many Researches have been done in the area of Web Based Instructional Material but due to lack of consistency in findings researcher has chosen the area of Web Based Instructional Material. From the related literature it was found that Web Based Instructional Material have been prepared for many subjects but none of the studies reveal the development of Web Based Instructional Material on Understanding the Self. Very few studies have been found for B.Ed. students. From the related literature it was found that Web Based Instructions was effective in terms of Achievement in various subjects but none of the study was related with the effectiveness of Web Based Instructional Material on Understanding the Self in terms of Psychological variables like Self Confidence, Self Perception and Self Esteem. Web Based Instructions is a flexible approach which saves a lot of time. In this approach individuals can learn at their own pace and as per their own schedule. Hence a gap was spotted and the researcher found a need to develop Web Based Instructional Material on Understanding the Self. Thus the present study was undertaken by the researcher.

1.4.0 STATEMENT OF THE PROBLEM

The statement of the problem for the present study was worded as-

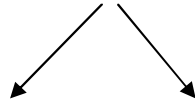
Effectiveness of Developed Web Based Instructional Material on Understanding the Self for B.Ed. students in terms of Self Esteem, Self Perception and Self Confidence

1.5.0 VARIABLES OF THE STUDY

The variables of the study were as follows-

- **INDEPENDENT VARIABLE**

Method of Teaching



Web Based Instructional Material Traditional Method

- **DEPENDENT VARIABLE**

- Self Esteem
- Self Perception
- Self Confidence

1.6.0 OPERATIONAL DEFINITIONS

The operational definitions of the terms used in this study were as follows-

- **WEB BASED INSTRUCTIONAL MATERIAL:-** The material which is in the form of instructions provided through world wide web.
- **UNDERSTANDING THE SELF:-** Understanding the self is exploration of one's own strengths and weaknesses. It can be developed through self reflection.
- **SELF ESTEEM: -** Self Esteem can be defined as an individual's general feeling of self worth.
- **SELF PERCEPTION: -** Self Perception refers to self regard and self acceptance of an individual. Self regard measures affirmation of self because of worth and strength and Self acceptance measures affirmation or acceptance of self, in spite of weaknesses and deficiencies.
- **SELF CONFIDENCE: -** Self Confidence is a positive attitude of oneself towards one's self concept.
- **REACTION: -** Reaction is the opinion of the students towards treatment.

1.7.0 OBJECTIVES

The objectives of the present study were as follows-

1. To compare the adjusted mean scores of Self Esteem of students of Experimental and Control group by considering pre Self Esteem as covariate.
2. To compare the adjusted mean scores of Self Perception of students of Experimental and Control group by considering pre Self Perception as covariate.
3. To compare the adjusted mean scores of Self Confidence of students of Experimental and Control group by considering pre Self Confidence as covariate.

4. To study the effect of Treatment, Intelligence and their interaction on Self Esteem by considering pre Self Esteem as Covariate.
5. To study the effect of Treatment, Intelligence and their interaction on Self Perception by considering pre Self Perception as Covariate.
6. To study the effect of Treatment, Intelligence and their interaction on Self Confidence by considering pre Self Confidence as Covariate.
7. To study the effect of Treatment, Gender and their interaction on Self Esteem by considering pre Self Esteem as Covariate.
8. To study the effect of Treatment, Gender and their interaction on Self Perception by considering pre Self Perception as Covariate.
9. To study the effect of Treatment, Gender and their interaction on Self Confidence by considering pre Self Confidence as Covariate.
10. To study the effect of Treatment, Stream and their interaction on Self Esteem by considering pre Self Esteem as Covariate.
11. To study the effect of Treatment, Stream and their interaction on Self Perception by considering pre Self Perception as Covariate.
12. To study the effect of Treatment, Stream and their interaction on Self Confidence by considering pre Self Confidence as Covariate.
13. To study the reaction of students of Experimental Group towards developed Web Based Instructional Material.

1.8.0 HYPOTHESES

The hypotheses for the present study were as follows-

1. There is no significant difference between adjusted mean scores of Self Esteem of students of Experimental and Control group by considering pre Self Esteem as covariate.
2. There is no significant difference between adjusted mean scores of Self Perception of students of Experimental and Control group by considering pre Self Perception as covariate.
3. There is no significant difference between adjusted mean scores of Self Confidence of students of Experimental and Control group by considering pre Self Confidence as covariate.
4. There is no significant effect of Treatment, Intelligence and their interaction on Self Esteem by considering pre Self Esteem as Covariate.
5. There is no significant effect of Treatment, Intelligence and their interaction on Self Perception by considering pre Self Perception as Covariate.
6. There is no significant effect of Treatment, Intelligence and their interaction on Self Confidence by considering pre Self Confidence as Covariate.
7. There is no significant effect of Treatment, Gender and their interaction on Self Esteem by considering pre Self Esteem as Covariate.
8. There is no significant effect of Treatment, Gender and their interaction on Self Perception by considering pre Self Perception as Covariate.
9. There is no significant effect of Treatment, Gender and their interaction on Self Confidence by considering pre Self Confidence as Covariate.
10. There is no significant effect of Treatment, Stream and their interaction on Self Esteem by considering pre Self Esteem as Covariate.

11. There is no significant effect of Treatment, Stream and their interaction on Self Perception by considering pre Self Perception as Covariate.

12. There is no significant effect of Treatment, Stream and their interaction on Self Confidence by considering pre Self Confidence as Covariate.

1.9.0 DELIMITATIONS

Delimitations of the present study were as follows:

- The content of Web Based Instructional Material was prepared in Understanding the Self of B.Ed. syllabus of colleges affiliated to Devi Ahilya University, Indore only.
- The study was limited to B.Ed. IV semester of session 2018-20 students of DAVV affiliated colleges only.

1.10.0 METHODOLOGY

The Methodology followed for the present study was dealt in different captions as –

1.10.1 SAMPLE

Purposive sampling was used. The population of the present study consisted of B.Ed. students who were studying in B.Ed. colleges affiliated to Devi Ahilya Vishwavidyalaya Indore in which the course Understanding the Self was included in their syllabus. Thus four teacher training colleges of Indore city were selected namely Gyanodaya Mahavidyalaya, ILVA Commerce and Science College, Arihant College and Aspire Institute. Gyanodaya Mahavidyalaya was selected as an Experimental group and the other three colleges were assigned as Control group. The distribution of sample is given in the table 3 –

Table 3 : College wise distribution of B.Ed. students

S. No.	Name of the College	Group	No. of Subjects	Male	Female	Total
1.	Gyanodaya Mahavidyalaya	Experimental Group	85	15	70	85
2.	ILVA College	Control Group	19	02	17	
3.	Arihant College	Control Group	21	03	18	67
4.	Aspire Institute	Control Group	27	03	24	
Total			152			

From the table 3 it is evident that the total sample size was 152 in both the groups. In which experimental group comprised of eighty five B.Ed. students of Gyanodaya Mahavidyalaya Indore and control group comprised of sixty seven B.Ed. students in which nineteen were from ILVA College, twenty one from Arihant College and twenty seven from Aspire Institute. Out of eighty five in Experimental Group there were fifteen

male and seventy females. Similarly in Traditional Group there were eight male and fifty nine females from all three colleges.

1.10.2 TOOLS

The standardized tools used for data collection in the present study were –

➤ **SELF ESTEEM SCALE**

The Self Esteem of the students was assessed with the help of Self Esteem Scale developed by Dr. Santosh Dhar and Dr. Upinder Dhar. The scale consisted of 23 items based on six factors i.e. Positivity, Openness, Competence, Humility, Self Worth and Learning Orientation. Scoring of the test was done as per the guidelines given in the manual. The split half reliability of the scale was 0.87. The scale has high content validity i.e. 0.93.

➤ **SELF PERCEPTION MEASURING SCALE**

The Self Perception of the students was assessed with the help of Self Perception Measuring Scale, which was developed by Dr. K. G. Agrawal. The scale consisted of 40 items based on two areas i.e. Self-regard and Self-acceptance, the full scale with items combined from both the areas make form of Self Perception. In the scale 24 items were based on Self Acceptance (SA) and 16 items were based on Self Regard (SR). Scoring of

the test was done as per the guidelines given in the manual. Test retest reliability of the scale was 0.75 and 0.80 for SR and SA respectively.

➤ **SELF CONFIDENCE INVENTORY**

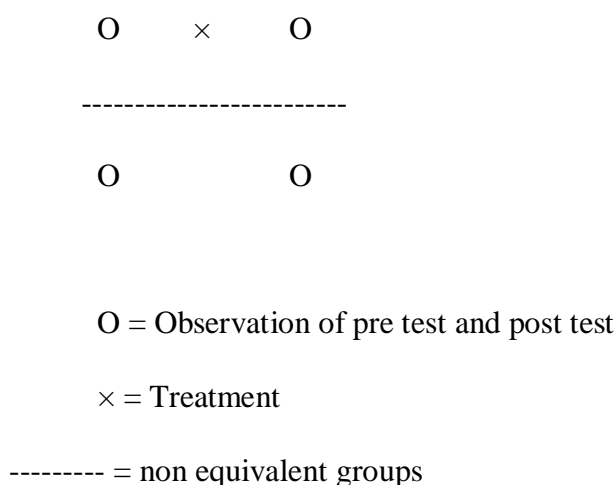
The Self Confidence of the students was assessed with the help of Self Confidence Inventory developed by Dr. Rekha Gupta. The inventory consisted of 56 items. As per the guideline given in the manual a score of one was awarded for a response indicative of lack of Self Confidence. Hence the lower the score, the higher would be the level of Self Confidence and vice-versa. The split half reliability of inventory was 0.91, by K-R formula the reliability was 0.89 and by Test-Retest it was 0.78. The validity coefficient was 0.82.

➤ **REACTION SCALE**

For assessing the students reaction towards Web Based Instructional Material a scale was developed by the researcher. The reaction scale consisted of 22 statements, 11 statements were of negative end and 11 were of positive end. Against each statement there were 5 point rating scale namely Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Students were asked to read each statement carefully and put tick mark on one alternative, which truly represents his/her reaction towards Web Based Instructional Material. The weight age of negative statements was 5,4,3,2 and 1 and the weight age of positive statement was 1,2,3,4 and 5. Time limit for the scale was 30 min.

1.10.3 EXPERIMENTAL DESIGN

The present study employed Non Equivalent Control Group Design as per Campbell and Stanley (1963). The design comes under Quasi Experimental design which showed that treatment groups were non equivalent. The layout of the design is as follows:



1.11.0 PROCEDURE OF DATA COLLECTION

The data collection process began after seeking permission from the Principals of selected colleges. Gyanodaya Mahavidyalaya was selected to conduct experiment via teaching through Web Based Instructional Material and ILVA College, Arihant College and Aspire Institute was assigned as traditional group. The students of the Experimental Group were oriented about the objectives of the experiment, with a purpose to establish rapport with them. After establishing the rapport with the students the Self Confidence, Self Perception and Self Esteem were assessed in three consecutive days. Web Based Google form was used to assess variables for Experimental Group and manual assessment tools were used for Control group. Then orientation of the purpose of subject

Understanding the Self was given. On the same day the use of cloud based platform i.e. Learning Management System (CANVAS) was introduced. On the next day intelligence test was administered. Students were added to the LMS by using their Gmail account simultaneously a what's app group also created by the researcher. Web Based Instructional material was developed by the researcher in the form of audio-visual power point presentations, podcast, PDF word documents and videos. The Experimental Group was taught through this Web Based Instructional Material which was uploaded on CANVAS day by day. Notification related to the uploaded material, assignments and quizzes were received by the students in their Gmail. A discussion section was also made on CANVAS to clear doubts and queries regarding material and course. Weekly Google Meet were organized for the follow up regarding material, course and the use of CANVAS. In the mean time the Traditional Group was taught through Traditional Method of teaching. The treatment continued for 45 working days including pre and post tests @45 minutes per period. After the treatment the three consecutive days were used for post tests of same dependent variables i.e. Self Confidence, Self Perception and Self Esteem in the same manner using the same tests. The scoring of the standardized tools was done as per the instructions given in the manual and scoring guide. The schematic representation of Treatment is given in table 4.

Table 4: The Schematic Representation of Treatment

Activity	Process		Time
Day 1	Both the groups Experimental and Control were oriented and objectives of research were discussed to build a rapport with the students		
	Control Group	Experimental Group	
Pre Testing of Dependent Variables			
Day 2	Assessment of Self Confidence	Assessment of Self Confidence	45 minutes
Day 3	Assessment of Self Perception	Assessment of Self Perception	45 minutes
Day 4	Assessment of Self Esteem	Assessment of Self Esteem	45 minutes
Day 5	Administration of Intelligence Test	Orientation of the subject and Web Based Platform (CANVAS) on Google Meet	45 minutes

Day 6		Administration of Intelligence Test	45 minutes
Day 7 to day 42 Treatment including Google Meet sessions	Content was taught through Traditional method	Content was taught using various Web Based approaches such as LMS, Podcast, videos and presentations.	@45 minutes
Post Testing of Dependent Variables			
Day 43	Assessment of Self Confidence	Assessment of Self Confidence	45 minutes
Day 44	Assessment of Self Perception	Assessment of Self Perception	45 minutes
Day 45	Assessment of Self Esteem	Assessment of Self Esteem	45 minutes
Day 46	–	Reaction Scale	30

			minutes
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1.12.0 STATISTICAL ANALYSIS OF DATA

Objective wise analysis of data was as follows:

1. ONE WAY ANCOVA was used to compare the adjusted mean scores of Self Esteem of students of Experimental and Control group by considering pre Self Esteem as covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).
2. ONE WAY ANCOVA was used to compare the adjusted mean scores of Self Perception of students of Experimental and Control group by considering pre Self Perception as covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).
3. ONE WAY ANCOVA was used to compare the adjusted mean scores of Self Confidence of students of Experimental and Control group by considering pre Self Confidence as covariate.
4. 2×3 Factorial Design ANCOVA was used to study the effect of Treatment, Intelligence and their interaction on Self Esteem by considering pre Self Esteem as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).
5. 2×3 Factorial Design ANCOVA was used to study the effect of Treatment, Intelligence and their interaction on Self Perception by considering pre Self Perception as

Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

6. 2×3 Factorial Design ANCOVA was used to study the effect of Treatment, Intelligence and their interaction on Self Confidence by considering pre Self Confidence as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

7. 2×2 Factorial Design ANCOVA was used to study the effect of Treatment, Gender and their interaction on Self Esteem by considering pre Self Esteem as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

8. 2×2 Factorial Design ANCOVA was used to study the effect of Treatment, Gender and their interaction on Self Perception by considering pre Self Perception as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

9. 2×2 Factorial Design ANCOVA was used to study the effect of Treatment, Gender and their interaction on Self Confidence by considering pre Self Confidence as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

10. 2×3 Factorial Design ANCOVA was used to study the effect of Treatment, Stream and their interaction on Self Esteem by considering pre Self Esteem as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

11. 2×3 Factorial Design ANCOVA was used to study the effect of Treatment, Stream and their interaction on Self Perception by considering pre Self Perception as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

12. 2×3 Factorial Design ANCOVA was used to study the effect of Treatment, Stream and their interaction on Self Confidence by considering pre Self Confidence as Covariate. (The assumptions of ANCOVA were not fulfilled so the researcher preceded towards Quade's ANCOVA i.e. non parametric statistics).

13. Mean, SD, CV and Percentile were used to assess the reaction scale.

1.13.0 FINDINGS

The findings that emerged out from the present study are as follows-

- Web Based Instructional Material on Understanding the self was found to be significantly superior to Traditional Teaching for enhancing Self Esteem of students when groups were matched statistically with respect to pre Self Esteem.
- Web Based Instructional Material on Understanding the self was found to be significantly superior to Traditional Teaching for enhancing Self Perception of students when groups were matched statistically with respect to pre Self Perception.
- Web Based Instructional Material on Understanding the self was found to be significantly superior to Traditional Teaching for enhancing Self Confidence of students when groups were matched statistically with respect to pre Self Confidence.

- Enhancement of Self Esteem was found to be independent of Gender when pre Self Esteem was considered as covariate.
- Enhancement of Self Esteem was found to be independent of the resultant of interaction between Treatment and Gender when pre Self Esteem was considered as covariate.
- Enhancement of Self Perception was found to be independent of Gender when pre Self Perception was considered as covariate.
- Enhancement of Self Perception was found to be independent of the resultant of interaction between Treatment and Gender when pre Self Perception was considered as covariate.
- Enhancement of Self Confidence was found to be independent of Gender when pre Self Confidence was considered as covariate.
- Enhancement of Self Confidence was found to be independent of the resultant of interaction between Treatment and Gender when pre Self Confidence was considered as covariate.
- Enhancement of Self Esteem was found to be independent of Intelligence when pre Self Esteem was considered as covariate.
- Enhancement of Self Esteem was found to be independent of the resultant of interaction between Treatment and Intelligence when pre Self Esteem was considered as covariate.
- Enhancement of Self Perception was found to be independent of Intelligence when pre Self Perception was considered as covariate.

- Enhancement of Self Perception was found to be independent of the resultant of interaction between Treatment and Intelligence when pre Self Perception was considered as covariate.
- Enhancement of Self Confidence was found to be independent of Intelligence when pre Self Confidence was considered as covariate.
- Enhancement of Self Confidence was found to be independent of the resultant of interaction between Treatment and Intelligence when pre Self Confidence was considered as covariate.
- Enhancement of Self Esteem was found to be independent of Stream when pre Self Esteem was considered as covariate.
- Enhancement of Self Esteem was found to be independent of the resultant of interaction between Treatment and Stream when pre Self Esteem was considered as covariate.
- Enhancement of Self Perception was found to be independent of Stream when pre Self Perception was considered as covariate.
- Enhancement of Self Perception was found to be independent of the resultant of interaction between Treatment and Stream when pre Self Perception was considered as covariate.
- Self Confidence of Arts students were found to be higher than Science students when both the groups were matched statistically with respect to pre Self Confidence.
- Enhancement of Self Confidence was found to be independent of the resultant of interaction between Treatment and Stream when pre Self Confidence was considered as covariate.

- Web Based Instructional Material was found to be effective in terms of reaction of students of Experimental Group.

1.14.0 EDUCATIONAL IMPLICATIONS

The present study revealed that Web Based Instructional Material was found to be significantly effective in terms of Self Confidence, Self Perception and Self Esteem of B.Ed. students. The findings of the study have implications for teachers, students, teacher educator's curriculum planners, software developers and administrators. The implications are as follows-

- **Implications for Teachers:** The findings of the present study have implications for the teachers. This study reveals that Web Based Instructional Material in Understanding the Self was found to be significantly superior to Traditional method of teaching in enhancing Self Confidence, Self Perception and Self Esteem of students. Teachers can easily adopt this strategy to achieve the instructional objectives. Teachers can develop effective content according to the need of their learners and deliver through any kind of Web Based platform according to availability and situations.
- **Implications for Teacher Educators:** The findings of the study suggest that developed Web Based Instructional Material in Understanding the Self was effective for enhancing Self Confidence, Self Perception and Self Esteem of students, thus there is a need of effective training to the teacher educators, so that they can create and manage their own content by getting regular feedback. Teacher educators can use Web Based Instructional Material as an effective tool in teaching learning process. There is a need of giving professional development opportunities to the teacher educators for achieving the

goals of education. For this purpose teacher educators should be given the freedom to design their own pedagogical approaches within the approved framework. There is a need to empower the faculty to conduct innovative teaching, which can be possible through blending of technology with teaching learning process. For this purpose Seminars, Workshops and Conferences need to be organized for teacher educators.

➤ **Implications for Students:** The findings reveal that developed Web Based Instructional Material in Understanding the Self is effective in terms of Self Confidence, Self Perception and Self Esteem of B.Ed. students. Through Web Based Instructions teacher need to encourage the students for Co-operative learning. Students can introduce themselves and interact with one another even outside the course content, because these platform provide discussion and chat sections. With the help of Web Based Instructional Material students can manage their own learning. Teacher can only be a guide or facilitator for them to encourage their activities. In Web Based Teaching most of the responsibilities are taken by students, which make them Self Confident.

➤ **Implication for Curriculum Planners:** As per NEP-2020 the restructuring of .curriculum has been done. To implement this structure at each level, a planned restructuring of Curriculum, Pedagogy and Content needs to be done with a proper training of teachers. Curriculum Planners should frame the course content in such a way that technological practices can be maximally utilized in Pedagogy.

➤ **Implications for Software Developers:** Findings reveal that Web Based Instructional Material is effective for students, so the software developers need to develop such type of software which can enhance Digital Literacy and make the students techno friendly.

➤ **Implications for Administrators:** Web Based Instructional Material should also be supported by administrators because it is a cost effective delivery method which can connect a number of students of different Gender, Residential Background and Stream at a time to deliver the content. Web Based delivery do not require a wide technical setup. Students can easily access the material by their own available device. Once a content has been designed that can be reused by the institutions by giving proper training to teachers regarding delivery.

1.15.0 SUGGESTIONS FOR FUTURE RESEARCH

- The present study was related to the course Understanding the Self of B.Ed. syllabus of affiliated colleges of DAVV, This may be extended to other courses as well.
- This type of research may be replicated by taking a large sample size.
- A research can be conducted to find out the impact of Web Based Instructional Material on particular population like Urban, Rural, Tribal and disabled.
- Effectiveness of Web Based Educational Material can be studied in formal education and distance learning also.
- In the present study Pre Self Confidence, Pre Self Perception and Pre Self Esteem were equated as covariate. Some other covariate may also be studied.
- Effectiveness of Web Based Instructional Material on the students of other levels of education can be studied.

