



## Effect of Specified Training With Sign Language and Vibrator Aid's on Selected Skills in Handball Among Deaf-and-Dumb College Students

### KEYWORDS

sign language, vibrator training, handball and passing and throwing

**R.SIGAMANI**

Physical Training Instructor, Presidency College,  
Chennai

**Dr.SUGUMAR.C.**

Deputy Director of Physical Education, Gandhigram  
Rural Institute - Deemed University, Gandhigram,  
Dindigul

**ABSTRACT** *The purpose of the study was to find out the effect of specified training with sign language and vibrator aid's on selected skills in handball among deaf-and-dumb College students. In this study forty five male students were randomly selected from Presidency College, Chennai and divided into three groups as two experimental and control groups. Data were collected from each subject before and after the training. The collected data were statistically analysed by using dependent 't' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement on passing and throwing performance of experimental groups when compared with the control group.*

### Introduction

Recent education census report says, "Among the 9 percent of handicapped people in India, 80 to 90 percent people are studious to promote themselves in education and social environment. There is a massive enrolment of handicapped students every year and the strength is steadily increasing. For example, Among the 69 government colleges of Tamilnadu, around 900 to 950 handicapped students enrolled their admission and 150 to 175 handicapped members of faculty working for the benefit of their fraternity.

Students with difficulties, curriculum for deaf-and-dumb people are entirely different. Because other students with difficulties can speak and hear which cover 80 percent of teaching and learning process. But for this people, sign language and inter personal methods such as touch and display can alone be used. Higher education is a concept which shapes the overall personality of a student through extra-curricular activities. Among the extra-curricular activities there are many varieties of events to channelize their positive energy and get shaped as a social well-being. The possible college level extra-curricular activities are, sports and games ( Track events and Individual events), National Cadet Corps, National Service Scheme, Rotaract Club, Red Ribbon Club, Green Club for Environment cleanliness and Youth Red Cross.

For instructing snowboarders during the ride, the coach could descend alongside the student to call out instructions. Even so, snowboarders could miss these spoken messages in the noisy environment. Spoken messages could also block environmental audio cues on which snowboarders rely on. Artificial tactile stimuli are an alternative means to give real-time instructions or feedback without these drawbacks. These stimuli can be generated by actuators, such as vibration motors that are sewn into the sportswear. Tactile stimuli have been proposed as application in sports for instructing athletes where to move to, how to move, and when to move (Van, et al., 2006). Their advantage is that they directly stimulate the body, like a coach who guides the student's movements. When the athlete needs only a hint at how to adjust the posture, a tactile stimulus can nudge the body in the right direction. Van Erp et al. 2006, described that tactile stimuli could

signal to athletes where to move to, how to move, and when to move.

Based on the above information, investigator planned to study the effectiveness of Deaf-and-Dumb students' participation in the college sports activities.

### Objectives

The following are the specific objectives of this study.

- To findout the effect of vibrator-aid's instruction based specified training on passing and throwing performance in handball among deaf-and-dumb college students.
- To findout the effect of combination of vibrator aid's and sign language instruction based specified training on passing and throwing performance in handball among deaf-and-dumb college students.
- To findout the best training method to enhance the passing and throwing performance in handball among deaf-and-dumb college students.

### Methodology

To achieve the purpose of this study, a qualified physician examined 150 deaf-and-dumb male college students were selected from Presidency College, Chennai, Tamilnadu, India, and found out 60 students were 90% hearing impaired out of 60, 90% hearing impaired 45 students were selected at random, their age ranged from 18 to 25 years as per the college records. The selected subjects were divided into two experimental groups and a control group with fifteen subjects in (n=20)each. Experimental Group I (VTG=20) underwent vibrator-aid's instruction based specified training, Group II (SVTG=20) underwent combination of vibrator aid's and sign language instruction based specified training, and Group III served as control group (CG) for the training period of 12 weeks with five sessions per week. The following passing and throwing variables such as nine meter front throw, dominant hand speed pass and over head pass were measured by using Zinn, 1981, test. The pre test data were collected two days before the training programme and the posttest data were collected two days after the training programme.

**ANALYSIS OF DATA**

The data collected from the experimental group prior and after experimentations on selected variables were statistically examined by using dependent 't' test and analysis of covariance (ANCOVA) was used as a statistical technique. Whenever the 'F' ratio was found to be significant, the Scheffe's test was used as a post- hoc test to determine which of the paired means differed significantly. In all the cases to test the significance, 0 .05 level of confidence was used.

**TABLE I  
SUMMARY OF MEAN STANDARD DEVIATION AND DEPENDENT 't' TEST FOR THE PRE POST AND ADJUSTED POST TESTS ON SELECTED VARIABLES OF EXPERIMENTAL AND CONTROL GROUPS**

Variables			VTG	SVTG	CG
9mts Front Throw In Points	Pre test	Mean	10.867	11.267	11.400
		SD	1.642	1.486	0.737
	Post test	Mean	15.000	17.200	11.933
		SD	2.236	2.484	1.033
	't' test		7.923*	12.191*	1.069

**TABLE II  
ANALYSIS OF COVARIANCE ON CRITERION VARIABLES OF EXPERIMENTAL AND CONTROL GROUPS**

Variables	Tests/ Groups		VTG	SVTG	CG	S O V	SS	df	MS	"F" Ratio
9 mts Front throw	Adjusted Post Test	$\bar{X}$	15.264	17.125	11.745	B W	222.829 116.615	2 41	111.414 2.844	39.171*
Dominant Hand Speed Pass	Adjusted Post Test	$\bar{X}$	44.318	42.426	45.456	B W	69.912 48.461	2 41	34.956 1.182	29.574*
Over Head Pass	Adjusted Post Test	$\bar{X}$	8.344	9.978	7.144	B W	59.827 59.633	2 41	29.914 1.454	20.567*

\* Significant at .05 level of confidence  
(The table value required for 0.05 level of significance with 2, 41 are 3.23)

**TABLE III  
SCHEFFE'S TEST ON CRITERION VARIABLES OF EXPERIMENTAL AND CONTROL GROUPS**

Variables	VTG vs SVTG	VTG vs CG	SVTG vs CG	CI
9 meter Front Throw	1.861*	3.518*	5.38*	1.564
Dominant Hand Speed Pass	1.893*	1.1378	3.03*	1.008
Over Head Pass	1.633*	1.200*	2.833*	1.118

\*Significant at 0.05 level

**Results and Discussion**

The results of the study indicate that significant difference exist among the pre, post and adjusted post test means of experimental and control groups on the 9meter front throw, dominant hand speed pass and over head pass among deaf-and- dumb participants. Successful performance in handball is determined by the specific technical-tactical skills (or knowledge of the elements) and by the quality level of basic physical condition or fitness. Successful performance of handball technical-tactical elements depends primarily on the level of the coordination-related

Variables			VTG	SVTG	CG
Dominant Hand Speed Pass In Seconds	Pre test	Mean	46.733	46.400	45.933
		SD	1.668	2.261	2.314
	Post test	Mean	44.667	42.467	45.067
		SD	2.193	2.031	2.404
	't' test		11.973*	21.438*	1.179
	Over Head Pass In Points	Pre test	Mean	6.400	7.000
SD			1.056	1.558	1.291
Post test		Mean	8.200	10.133	7.133
		SD	1.146	1.187	1.685
't' test			7.585*	11.225*	0.201

abilities and on the strength/power fitness. Certain previous Croatian studies on situation-related motor abilities (Vuleta, Simenc, & Tivic, 1990) make it possible to presume that there are five latent situation-related motor dimensions accuracy, ball handling, motion speed without the ball, motion speed with the ball, ball throwing power. Abdulla and Zidane (2000), recommends that special training programme improve the Volleyball skill among the deaf-and-dumb students. Zozo and Hassan (1999), stated that preliminary games led to learn games and improve the basic skills of handball in the deaf-and-dumb and improving the motor capacity associated with these skills.

Galvin, et al., (1993) studied the training program used with the University of Melbourne's multiple-channel electro tactile device is presented to show how these important factors may be addressed, to indicate the flexibility required in a training program, and to provide a general framework on which researchers may base the development of programs for other tactile devices. Spelmezan, 2012, identifies the conditions under which tactile instructions can support athletes in sports training. Alathari and Manatee (2009), study showed that sign language was more effective than lip-reading in learning the skills of throwing the ball from the bottom, and throwing it front bottom to front among deaf and mute. The present study training methods also used the tactile instructions and sign

language method during the specified training sessions. In the present investigation, the use of vibrator aid's instruction based specified training and combination of vibrator aid's and sign language instruction based specific training improves the 9meter front throw, dominant hand speed pass and over head passing ability.

### Conclusions

The current study focuses on specified training with sign language and vibrator aids on selected skills in handball among deaf-and-dumb college students. The researchers investigated only male handball players, this designed only for Presidency College Students. The present research concluded that vibrator aid's instruction based specified training and combination of vibrator aid's and sign language instruction based training improves the passing and throwing skills. At the same time vibrator aid's and sign language instruction based specific training improves the 9 meter front throw, dominant hand speed pass and over head pass than the vibrator aid's instruction based specific training.

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