TRAINING INITIATIVES FOR WEAVERS' SKILL ENHANCEMENT: AN IMPACT ASSESSMENT STUDY

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ABSTRACT

The study's goal is to examine how a training program affects the development of a weaver's skills. Handloom training programs are necessary for the advancement and upgradation of weaving techniques (Balakrishnan & Nadu, 2019). Handloom is the traditional cottage industry of Orissa and is performed by weavers for generations to earn a livelihood with self-employment. Skill has a multilevel role to play in the handloom industry, whether it's learning to weave or utilising technology to boost weaving output. Due to the present advancement in technology, this industry is facing stiff completion in the market for substances. To overcome the situation, market-oriented products with colour fastness are required which can be done with skills training for the weavers. For this, data have been collected from 110 trained weavers who have undergone handloom training in Bargarh District. Paired Sample t-test was used to analyse the collected data, and Cohen's D Test was used to calculate the effect size. The study discovered that after completing the training programme, the weavers' skills significantly improved.

Keywords: *Training, Weaving, Skill, Handloom.*

INTRODUCTION

One of India's cultural legacies is the handloom textile industry, which is the second-largest economic activity after agriculture. Close to 43 lakh people are engaged in hand weaving and allied activities in India (msde.gov.in). Even though the handloom sector provides thousands of talented weavers with abundant employment prospects, it has recently been plagued by challenges and is now in the decline stage of the product life cycle (Kumudha & Rizwana, 2013). Handloom fabric attracts huge consumer interest due to its unique designs and exquisite artistic value. To be updated with the latest trend with regards to the market as well as fashion, skill up-gradation training and exposure should be given to weavers and allied workers for learning new weaving techniques, development of new designs, eco-friendly dyes, exposure management practices, familiarisation with e-commerce, etc. The key problems in this sector are due to a lack of training opportunities for upgrading skills. (Rao & Kumar, 2018). Due to the non-availability of skilled and trained labour, more handloom skill development training programmes should be organised. The goal is to enhance the traditional

weavers' innate artistic abilities, so they can create distinctive designs for essential handloom products with added value. Besides this, the weavers face obstacles in the market since they lack formal education and training (Palanithurai & Srirangarajan, 2018). Training can create employment opportunities, especially for rural youth. (Deo, et al 2010). There are weaving techniques which can be implemented in the learning procedure, which help to uphold focus fascinatingly (Mahalingam & Balakrishnan, 2019). The earnings and profitability of the weavers directly depend on their productivity and managerial skills (Handloom Census 2009-10). Weaving is low-paying labour sometimes in an unstable market; it is a backup skill, but if given the option, weavers will accept better-paying work (Venkatesan, 2010). Training improves knowledge, skill and managerial ability and because of technological change, training becomes an essential part of almost all industrial units (Hazarika 2019). The goal of the current study is to evaluate the training's effectiveness by examining the weavers 'prior skills and challenges to develop ways and strategies for improving the living conditions of weavers.

Skill Upgradation Training to Handloom Weavers by the Ministry of Textiles

Skill up-gradation of handloom weavers is conducted under Scheme for Capacity Building in Textile Sector (SAMARTH). The handloom weavers across all the states of our country have undergone skill up-gradation during the last three years from 2018-19 to 2020-21. The 28 Weavers' Service Centers (WSCs) that are operated around the nation under the administrative supervision of the Ministry of Textiles provide training programmes for handloom workers. As part of this programme, prospective weavers from across the state, at least 50% of whom will be women will receive three to six months of training which will help them create new designs and become master weavers and master dyers. The aforementioned programmes offer financial support for the acquisition of raw materials, the purchase of looms and accessories, design innovation, product diversification, infrastructure development, skill upgradation, and marketing of handloom goods in domestic and international markets.

REVIEW OF LITERATURE

Deo et al. (2010) found a significant increase in the attitude, level of knowledge and skill performance of the weavers after the post-training programme. Regarding this Kumudha and Rizwana (2013) suggested, the government can set up training programmes for weavers regarding contemporary design development, rationalising their wage payment system and improving their financial situation. Whereas, Palanithurai & Srirangarajan (2018) explained in the present context, how weavers face challenges in the market, as they do not have formal training. Rao & Kumar (2018) explored various challenges in this sector which include inadequate training for the upgradation of skills, unorganized structure and weak financial base of the weavers etc. They also explored training is informally passed on from older family members to the younger members, whereas Ganapathu & Ramaswami (2018) argue that the abilities were transferred through informal learning, and the income did not rise as expected. Norris (2013) found a shortage of skilled weavers in the handloom sector is due to

better opportunities in other sectors. Mishra and Mohapatra (2019) suggested specialized training needs to be given to the handloom employees for the meaningful marketing of handloom products through cost-effective distribution channels. On the other hand, Mahalingam and Balakrishnan (2019) found that advanced assessment procedures are required for better productivity. Swargiary & Pegu (2020) explored the context of specialization and modernization of the handloom industry which will raise the demand for its products and this can be possible by widening the scope of training. Hwang & Huang (2019) found the requirement of training for the preservation of this cultural heritage. The researchers make incredible efforts in this domain, but they lacked a rigorous scientific approach to measure the aggregate effect of a handloom training program. After all, relatively little research has been done on the advancement of weaving skills. Therefore, this study can suggest ways to enhance those training components that are either overlooked or not carried out adequately.

OBJECTIVES OF THE STUDY

1. To determine the difference between the pre training skills and post-training skills of the weavers.
2. To measure the aggregate effect of a training program on the handloom weavers.

HYPOTHESIS OF THE STUDY

H0: There is no significant difference in the pre-training results and post-training results.
H1: There is a significant difference in the pre-training results and post-training results.

RESEARCH DESIGN AND METHODOLOGY

Utilizing the primary approach for gathering data, this study applied a quantitative methodology. It has been purposefully determined to conduct the study on 110 handloom weavers' undergone training program during 2018-2021 conducted by the Ministry of Textile. The weavers belonging to Bargarh District have been chosen for this study. Through a telephone conversation as well as a personal visit, the information was obtained from them and entered into the spreadsheet. The required data on skill improvement has been gathered from both the pre-and post-training periods. Weavers were asked to categorise their skill and knowledge on a scale i.e. fundamental, average and expert. Statistical tools have been used to appropriately code, tabulate, analyse, and interpret the data that have been gathered. To evaluate the variation in mean scores and gauge the impact of the training programme, the Paired Sample t-Test was employed and to measure the effectiveness of the training program Cohen's D Score has been referred to.

JUSTIFICATION OF STATISTICAL TOOLS

Paired Sample t-Test: To ascertain the mean difference between two sets of observations from the same sample, the paired sample t-test is employed. It is also known as the dependent sample t-test. Each subject or thing is measured twice, yielding pairs of observations, in a paired sample t-test. Often the two variables are

separated by time. The formula for calculating the t score is:

$$t = \frac{(\sum d)}{\sqrt{\frac{(n(\sum d^2)-(\sum d)^2)}{(n-1)}}}$$

The paired sample t-test has four main assumptions: The dependent variable must be continuous (interval/ratio). The observations are independent of one another. The dependent variable should be approximately normally distributed. In this present study, all the above-mentioned assumptions have duly been satisfied.

Cohen's D (Effect Size): The significance of the association between variables or the distinction between groups is shown by the effect size. A big effect size denotes the practical significance of a research conclusion, whereas a small impact size suggests limited practical implications. Cohen's D specifically measures the effect size of the difference between two means. It takes the difference between two means and expresses it in standard deviation units. Cohen classified effect sizes as small (d = 0.2), medium (d = 0.5), and large (d ≥ 0.8) (Gignac & Szodorai, 2016).

$$d = \frac{M^1-M^2}{\sqrt{\frac{S^2/_1+S^2/_2}{2}}}$$

From the value "d" we can find the effect size coefficient from the following formula:

$$r = \frac{d}{\sqrt{d^2+4}}$$

RESULTS AND DISCUSSIONS

Table 1: State-wise details of weavers undergoing skill upgradation from 2018-21.

State	No of Weavers	State	No of Weavers
Andhra Pradesh	2535	Maharashtra	406
Arunachal Pradesh	700	Manipur	241
Assam	8198	Mizoram	500
Bihar	800	Nagaland	391
Chhattisgarh	226	Odisha	1194
Gujarat	247	Punjab	59
Himachal Pradesh	518	Rajasthan	99
Haryana	60	Tamil Nadu	2000
Jammu & Kashmir	549	Telangana	120
Jharkhand	220	Tripura	151
Karnataka	705	Uttar Pradesh	2171
Kerala	620	Uttarakhand	136
Madhya Pradesh	111	West Bengal	411

Source: https://pib.gov.in/

The names of the states and how many weavers have participated in the training programme are shown in the table above. A total of 1194 weavers in Odisha underwent the training programme. In terms of the total number of weavers who have completed the training programme, Odisha stands in fifth place. In Assam, a total of 8198 weavers have completed their training followed by Andhra Pradesh (2535), Uttar /Pradesh (2171) and Tamil Nadu (2000).

Table 2: Dimensions of Training.

Skill Type	
Skill 01	New Weaving Technique
Skill 02	Development of New Designs
Skill 03	Eco-Friendly Dyes
Skill 04	Exposure to Managerial Training
Skill 05	Familiarisation with E-Commerce

The above table shows several sorts of abilities that experts have taught the weavers. Technical skills are those that are concerned with innovative weaving techniques, design and texture advancements, and the use of eco-friendly dyes. The remaining two skills relate to exposure to management and familiarity with e-commerce activities.

Table 3: Paired Samples Statistics.

	Mean	**N**	**Std. Deviation**	**Std. Error Mean**	**Coefficient of Variation**
Pre Training	1.7545	110	0.31321	0.030	0.179
Post Training	2.0691	110	0.35575	0.034	0.172

Source: Authors' Calculation

It is evident from the above table that the mean value of Post Training has significantly increased when compared to Pre Training. The mean reaction score before training is 1.75, while the mean response score after testing is 2.06. The post-training response is more consistent when the coefficient of variation is examined. The coefficient of variation of the pre-training period is 0.179, whereas the post-training answer is 0.172, clearly demonstrating that the weavers improved their level of competence and stability after training.

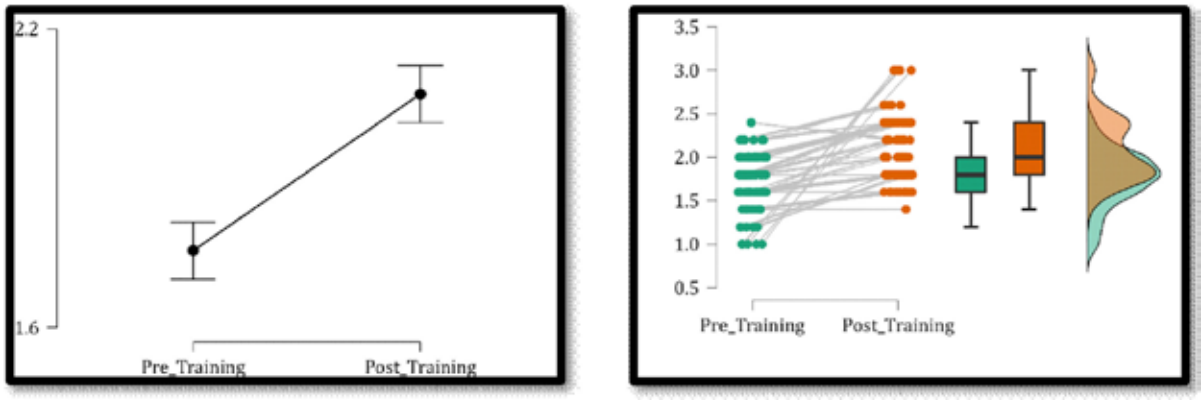

Figure 1: Descriptive Plot & Rain Cloud Plot (Pre Training Vis à Vis Post Training)

According to the above diagram, the orange-coloured dots represent post-training responses, whilst the green-coloured ones represent pre-training responses. The aforementioned diagram again makes it clear that the post-training data are more densely packed than the pre-training data. Thus, it can be said that following the training programme, there was an improvement in skills.

Table 4: Paired Samples t-Test (Skill wise).

	Statistic	df	p	Effect Size	
Skill 01 New Weaving Technique	-6.86	109	< .001	Cohen's d	-0.654
Skill 02 New Designs Development	-5.16	109	< .001	Cohen's d	-0.492
Skill 03 Eco-Friendly Dyes	-3.92	109	< .001	Cohen's d	-0.373
Skill 04 Managerial Training	-4.75	109	< .001	Cohen's d	-0.453
Skill 05 E-Commerce Familiarisation	-6.36	109	< .001	Cohen's d	-0.654

Source: Authors' Calculation

It is evident from the accompanying table that all the skills have a considerable mean difference between pre-training and post-training. A major impact has been observed regarding the training of new weaving techniques and e-commerce familiarisation, followed by the development of new designs. Higher z-score numbers denote a considerable difference between the two sample sets and there is a greater resemblance between the two sample sets when the z-value is lower. So, training regarding the use of eco-friendly dyes (3.92) does not create a substantial difference and will not benefit the weaver's skill upgrade. The z value (6.36) of skill 5 i.e. e-commerce familiarization, in the table above, indicates that there is a significant difference between the mean values before and after training. E-commerce training has a bigger impact on weavers, which is also found significant. The

weavers are therefore very cautious about the online marketing of handloom goods. A considerable difference between pre-and post-training can be seen in managerial training, which has a z score of 4.75, and the creation of new designs, which has a z score of 5.16.

Table 5: Paired Samples t-Test.

Measure 1	Measure 2	t	df	p	Cohen's d
Post Training	Pre Training	- 7.769	109	< .001	0.732

Source: Authors' Calculation

The mean score for each skill under pre- and post-training is mentioned in the table above. By incorporating every response into the summative scale, the mean score was determined. For the Student t-test, the effect size is given by Cohen's d. From the above table, the t statistic is -7.77 which is found significant, as the p-value is less than 0.05. The effect size is 0.732 which indicates the effect of the training program is significantly high (Gignac & Szodorai, 2016). Hence we are rejecting our null hypothesis (Ho) and the alternative hypothesis (H1) is acknowledged.

FINDINGS AND IMPLICATIONS

From a policy perspective, the findings of this assessment suggest that investing in the training of weavers is likely to be a highly effective strategy for promoting economic growth and development. The majority of the respondents in this present study have acquired a high level of skill. It may be inferred from the aforementioned study that weavers are unaware of and have no prior knowledge of e-commerce platforms. However, after training, they responded in a confident and upbeat manner. In terms of managerial training, the weavers expressed their appreciation for their positive skill development. A major improvement has also been seen in design and pattern creation. Only one skill i.e. usage of eco-friendly dye shows discernible impact. This field should therefore receive priority because eco-friendly dye should always be preferred over chemical dye. Young rural people should be provided with training programmes so they can enter the handloom industry. Creating training programs for disadvantaged handloom weavers can develop their skills (Vargese & Salim, 2015). By conducting more training and development plans, there is potential to improve the weavers' quality of production (Rao & Kumar, 2018). As the weaving techniques are on the verge of disappearing (Hwang & Huang, 2019), the weavers should involve themselves in various forms of handloom weaving techniques and develop the weaving business into a more advanced business unit (Mau & Djawahir, 2021). Governments and industry bodies could consider funding and promoting initiatives that offer training opportunities for weavers, including vocational education and apprenticeships. Moreover, such training programs could be developed to include broader skills, to help weavers develop their businesses and increase their income.

CONCLUSION

In conclusion, the assessment of weavers' training has demonstrated a significant positive

effect on their skills and productivity. The training has led to the improvement of the weavers' technical and marketing knowledge, as well as their ability to create high-quality products in a timely and efficient manner. This positive effect is likely to have significant implications for the weavers themselves, as well as for the wider textile industry and the economy as a whole. Therefore, policymakers and industry leaders should prioritize investing in the training and development of the weavers to enhance their productivity and enable them to contribute more effectively to the economy.

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