



## Knowledge Level of Beneficiaries of CSSDM-Vocational Training Programme: Comparative Analysis Across Selected Course Groups

Kumari Jyoti<sup>1\*</sup>, Saikat Maji<sup>2</sup> and Dangi Pooja Arun<sup>3</sup>

<sup>1</sup>Assistant Professor, Department of Agricultural Extension and Communication, Narayan Institute of Agricultural Sciences, Gopal Narayan Singh University, Rohtas-821305, Bihar, India

<sup>2</sup>Assistant Professor, Department of Extension Education, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005, Uttar Pradesh, India

<sup>3</sup>Assistant Professor, Lovely Professional University, Phagwara-144402, Punjab, India

\*Corresponding author email id: jyoti.ext2710@gmail.com

### HIGHLIGHTS

- Caste, cosmopolitaness, landholding and mass-media exposure had favourable and substantial correlations with level of knowledge.
- A 5.30 per cent variance in the trainees' level of knowledge can be explained by the change in cosmopolitaness and caste category.
- Knowledge formation and its subsequent retention depend strongly upon the employability of the particular course

### ARTICLE INFO

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### ABSTRACT

Regular education and comprehension enhance knowledge, which opens doors to career options. Thus, the study focused on the Chhattisgarh State Skill Development Mission (CSSDM), which has been in place since 2009 and aims to enhance recipients' knowledge, abilities, and attitudes to create possibilities for meaningful work. With 250 beneficiaries, the study was carried out in 2021 in the Bilaspur District of Chhattisgarh to meaningfully determine the factors that influence the patterns of knowledge acquisition among different beneficiary subgroups. As a result, the beneficiaries were chosen by a proportionate random sample technique and were examined from among five major courses. When the total results were evaluated, regardless of the course group, it was discovered that the beneficiaries' caste classification, land ownership, exposure to the media, and cosmopolitaness had a substantial correlation with their level of knowledge. The stepwise regression study indicated that caste category and cosmopolitaness had a significant impact on knowledge growth in variance terms. Beneficiaries of several group areas with the lowest knowledge level in the case of medical & nursing courses were shown to have significant variations in knowledge.

### INTRODUCTION

The term "skill" describes the capacity to use specific knowledge and experience in the real world to carry out activities and find solutions to issues. It is obtained by experience and training beyond the minimal prerequisites for employment. Professionals have a clear advantage in the job market since they may use their advanced skills and knowledge in appropriate and recognized ways. On the other

hand, persistently performing unskilled labour prevents the development of real skills. Knowledge and skills are the main factors influencing a nation's societal advancement and economic expansion. The development of the youthful workforce's abilities is vital as India moves closer to becoming a knowledge-based economy since it will ensure that they are relevant to the new economic landscape. Early in the new millennium, UNESCO acknowledged the need for this and focused on vocational trainings. Moreover, UNESCO

acknowledge the environment and equitable aspects of skills in addition to their economic relevance (UNICEF, 2019).

Knowledge is a crucial component of any skilful training since it provides value and motivation for participating in the perception of novel concepts and methods covered in vocational training or any other kind of development program. The Chhattisgarh State Skill Development Mission (CSSDM) was established in 2009 to address the state's population's lack of education and skills. R-SETI (Rural Self-employment Training Institute) for young people living below the poverty line was one of the programs. In the database of the Skill and Entrepreneurship Development Centres (SEDCs) are around 3000 educational and social institutions, both public and commercial. Major corporations that support the upgradation of government included NTPC, SAIL, Grasim Cement, ACC Cement, Maruti Coal Clean, Jindal Steel and Power, and Power Ltd. District-level job fairs are also held under CSSDM when employers and job seekers with CSSDM training are invited in-person for job selection and face-to-face interaction. The state government's persistent emphasis on training youth in employable skills and giving them access to job opportunities made it necessary to conduct a thorough examination of the beneficiaries' knowledge levels. These beneficiaries received training under CSSDM in a variety of course group areas, and funding was allocated for influencing factors in the interest of improvement and policy interventions.

### METHODOLOGY

The very first skill development mission in the country was initiated in Chhattisgarh in (2009) and was selected purposively for the study. The Bilaspur district had the highest number of certified beneficiaries, which was the basis for district selection. The top five courses were chosen from a variety of options based on the greatest number of certified beneficiaries. The sample was determined using a proportionate method to select 250 respondents from the following courses: Garment making (86), ICT (80), Electricals (30), Medical & Nursing (29) & Construction (25).

Interviews were conducted according to a set schedule to gather data. Five broad questions on the Skill Development Mission and five questions about the specific courses in which the beneficiaries got vocational training were used to gauge the beneficiaries' level of knowledge. Correct (1) and incorrect (0) were the two-point continuums used to rate the responses. The trainees were categorized according to their degree of familiarity with the courses and program events using the cumulative square root frequency method. Stepwise regression and Pearson product-moment correlation analysis were utilized to indicate the relationship and contribution of various personality and socio-economic factors to the recipients' level of knowledge. The Kruskal-Wallis test was also used to determine whether there are any real variations in the knowledge levels of beneficiaries enrolled in various courses.

## RESULTS

### Knowledge level

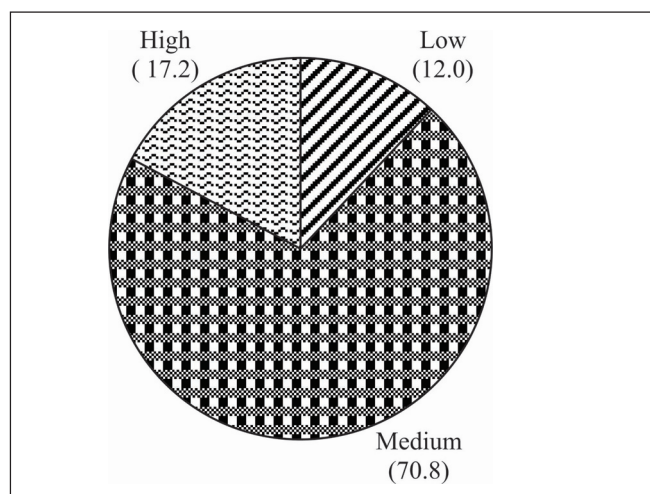
The degree of knowledge shows how well-informed recipients are about the ongoing program for developing occupational skills and how skilled they are in the particular field for which they received training. Table 1 provides specific information about the knowledge level of the respondents. Regardless of the course group, it was found that most respondents had an average degree of understanding about the program and courses. Out of the five courses, the ICT course had the largest percentage of trainees who gained a higher level of knowledge (23.75%), followed by the construction course (20.0%) and the garment making course (20.93%) achieved a medium level of understanding (Figure 1).

### Influencing factors of beneficiaries' knowledge

The study employed the Pearson product-moment correlation coefficient ( $r$ ) to examine the relationship between a subset of socioeconomic and personal characteristics and the beneficiaries' level of knowledge. It was discovered that the categories of caste, cosmopolitanity, landholding and mass-media exposure all had favourable and substantial correlations with level of knowledge shown in Table 2.

### Effect of selected independent variables on level of knowledge (stepwise regression analysis)

The data indicates that cosmopolitanity and caste category had significant contributions in the variability of the beneficiaries' level of knowledge; overall, a 5.30 per cent variance in the trainees'



**Figure 1.** Distribution of respondents (Overall basis) according to their knowledge level (n=250)

**Table 1.** Distribution of the respondents according to their level of knowledge

| S.No. | Particulars        | Garments<br>(n1=86)<br>Frequency (%) | ICT<br>(n2=80)<br>Frequency (%) | Electronics<br>(n3=30)<br>Frequency (%) | Medical & Nursing<br>(n4=29)<br>Frequency (%) | Construction<br>(n5=25)<br>Frequency (%) |
|-------|--------------------|--------------------------------------|---------------------------------|-----------------------------------------|-----------------------------------------------|------------------------------------------|
| 1.    | Low (upto 5.67)    | 32(37.20)                            | 21(26.25)                       | 13(43.34)                               | 14(48.27)                                     | 03(12.00)                                |
| 2.    | Medium (5.68-8.02) | 36(41.86)                            | 40(50.00)                       | 17(56.66)                               | 15(51.73)                                     | 17(68.00)                                |
| 3.    | High (>8.02)       | 18 (20.93)                           | 19(23.75)                       | 00(00.00)                               | 00(00.00)                                     | 05(20.00)                                |

**Table 2.** Relationship of the level of knowledge with independent variables under study

| S.No.           | Socio-economic and personal variables | 'r' value            | P value |
|-----------------|---------------------------------------|----------------------|---------|
| X <sub>1</sub>  | Age                                   | -0.074 <sup>NS</sup> | 0.241   |
| X <sub>2</sub>  | Gender                                | 0.116 <sup>NS</sup>  | 0.068   |
| X <sub>3</sub>  | Caste category                        | 0.151*               | 0.017   |
| X <sub>4</sub>  | Occupation                            | 0.040 <sup>NS</sup>  | 0.528   |
| X <sub>5</sub>  | Land Holding                          | 0.166**              | 0.009   |
| X <sub>6</sub>  | Subscription of Mass Media            | 0.090 <sup>NS</sup>  | 0.156   |
| X <sub>7</sub>  | Mass media Exposure                   | 0.163**              | 0.100   |
| X <sub>8</sub>  | Cosmopoliteness                       | 0.196**              | 0.002   |
| X <sub>9</sub>  | Participation in programme            | 0.066 <sup>NS</sup>  | 0.297   |
| X <sub>10</sub> | Level of Satisfaction                 | 0.041 <sup>NS</sup>  | 0.519   |

\*Correlation is significant at the 5 per cent level (2-tailed)

\*\*Correlation is significant at the 1 per cent level (2-tailed)

<sup>NS</sup> =non-significant

level of knowledge can be explained by the change in cosmopoliteness and caste category. Other variables, such as age, gender, occupation, landholding and mass-media contact, had very little contribution in deciding the level of knowledge. The stepwise regression method was used to determine the effect of assumed independent variables (socio-economic and personal variables) on the level of knowledge and derive the most suitable model based on regression (Table 3).

#### Comparative analysis of the level of knowledge across selected course groups of CSSDM (Kruskal-Wallis Test)

In lieu of the parametric one-way ANOVA, the non-parametric Kruskal-Wallis Test was used to determine whether any significant differences existed between the different course groups under CSSDM. Based on the results of the Leven's test (Table 4), it was

**Table 4.** Test of homogeneity of Variance

| Level of Knowledge                 | Levene Statistic | df1 | df2     | Sig.  |
|------------------------------------|------------------|-----|---------|-------|
| Based on Mean                      | 3.79             | 4   | 245     | 0.009 |
| Based on Median                    | 3.550            | 4   | 245     | 0.008 |
| Based on Median & with adjusted df | 3.550            | 4   | 206.004 | 0.008 |
| Based on trimmed mean              | 3.475            | 4   | 245     | 0.009 |

determined that the assumptions of homogeneity of variance, which is required for performing an ANOVA, was not met. The Kruskal-Wallis test, and hypothesis test summary verified that there was a substantial variation in the amount of knowledge acquired by the course groups. Subsequent examination, as illustrated in Table 5 and Figure 2, demonstrated a noteworthy discrepancy in the degree of knowledge attained by the participants in the Medical & Nursing course in contrast to the ICT and Construction courses. Furthermore, compared to the Medical & Nursing course, participants' knowledge levels in the ICT and Construction courses were noticeably greater. Comparing the electricals course to the construction course, participants demonstrated a notably lower level of knowledge gain.

## DISCUSSION

Given the quick action required of such demand-driven training for better outcomes, assessing of participants in adult, vocational or non-formal training programs is crucial (Allen & van der Velden, 2001; Green & McIntosh, 2009; Pellizzari & Fichen, 2017). The demand-driven strategy places more emphasis on transferable skills, which play a major role in determining employment outcomes. (Bowles et al., 2001; Heckman & Rubinstein, 2001; Kurekova et al., 2015). The current study's findings showed the average level of knowledge development among recipients across a subset of

**Table 3.** Model Summary<sup>a</sup>

| Model | R                  | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics     |          |     |     |               |
|-------|--------------------|----------------|-------------------------|----------------------------|-----------------------|----------|-----|-----|---------------|
|       |                    |                |                         |                            | R <sup>2</sup> Change | F Change | df1 | df2 | Sig. F Change |
| 1     | 0.196 <sup>a</sup> | 0.038          | 0.034                   | 1.561                      | 0.038                 | 9.863    | 1   | 248 | 0.002         |
| 2     | 0.231 <sup>b</sup> | 0.053          | 0.046                   | 1.552                      | 0.015                 | 3.972    | 1   | 247 | 0.047         |

a.Predictors: (Constant), Cosmopoliteness, Predictors: (Constant), Cosmopoliteness, caste, Dependent variable: Level of Knowledge

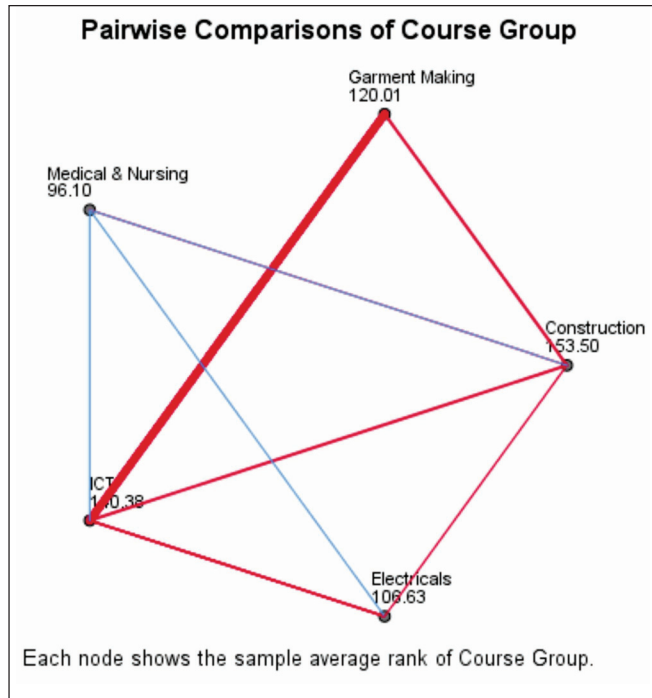
**Table 5.** Pairwise comparison of course groups in terms of level of knowledge

| Sample 1- Sample 2                 | Test Statistics | Std. Error | Std. Test Statistic | Significance | Adj. Sig. <sup>a</sup> |
|------------------------------------|-----------------|------------|---------------------|--------------|------------------------|
| Medical & Nursing – Electricals    | 10.530          | 18.437     | 0.571               | 0.568        | 1.000                  |
| Medical & Nursing – Garment making | 23.908          | 15.203     | 1.573               | 0.116        | 1.000                  |
| Medical & Nursing - ICT            | 44.278          | 15.346     | 2.885               | 0.004        | 0.039                  |
| Medical & Nursing - Construction   | -57.397         | 19.322     | -2.971              | 0.003        | 0.030                  |
| Electricals – Garment Making       | 13.378          | 15.012     | 0.891               | 0.373        | 1.000                  |
| Electricals – ICT                  | 33.748          | 15.157     | 2.227               | 0.026        | 0.260                  |
| Electricals - Construction         | -46.867         | 19.172     | 2.227               | 0.026        | 0.260                  |
| Garment Making - ICT               | -20.370         | 10.997     | -1.852              | 0.064        | 0.640                  |
| Garment making – Construction      | -33.488         | 16.086     | -2.082              | 0.037        | 0.374                  |
| ICT - Construction                 | -13.119         | 16.222     | -0.809              | 0.419        | 1.000                  |

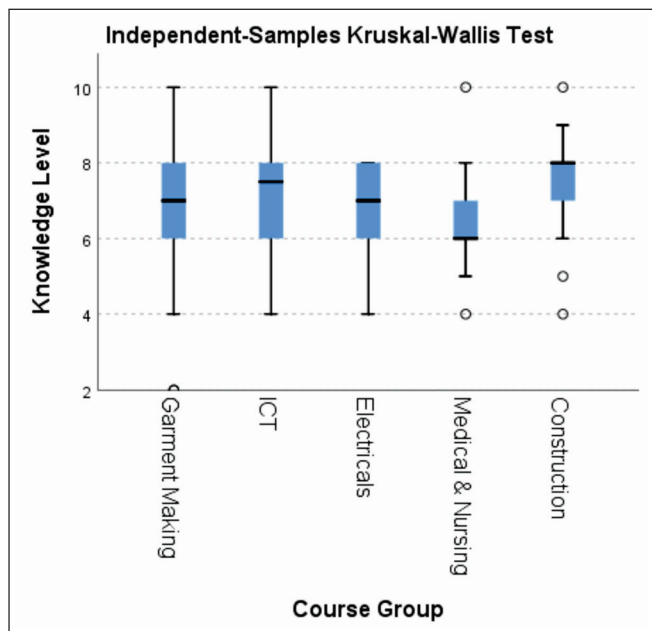
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.



**Figure 2.** Significance of the difference in terms of knowledge among beneficiaries of selected courses groups



**Figure 3.** Level of knowledge of beneficiaries across selected course groups of CSSDM

CSSDM vocational training groups. Numerous studies also revealed that, in India, the average knowledge gained from different vocational training programs has to be enhanced for better training results. (Gogoi et al., 2000; Goyal & Solanki, 2007). However, since CSSDM is the first of its kind to be launched by the state of Chhattisgarh, the training's quality will only increase with the expertise of the experts and the assistance of enabling organizations.

The age of the respondents did not have any statistically significant correlation with the level of knowledge, according to the correlational analysis of the association between selected socio-economic and personal variables and the level of knowledge. This suggests that knowledge, particularly vocational knowledge as investigated in this study, is not age-related and can be acquired at any age. The respondents' gender did not significantly correlate with their degree of knowledge, refuting the widely held belief that there are disparities in the abilities of the gender to acquire knowledge. At the 5 per cent significance level, there was a positive significance relationship between the caste category and the individuals' degree of knowledge. The classification was made in accordance with the societal grading system, meaning that the higher the category, the more knowledgeable the person is. The respondents' occupations did not significantly correlate with their knowledge, suggesting that vocational knowledge can be acquired regardless of one's current work. At a one percent significance level, the respondents land holding revealed a positive and statistically significant correlation with their level of knowledge, meaning that the likelihood of having a greater degree of knowledge increased with land owning. The findings are in agreement with the findings of Nain & Bhagat (2005); Dechamma (2015); Mohan Kumar (2018) & Pawar et al., (2023).

The respondents' degree of knowledge was not significantly impacted by their mass media subscription. On the other hand, at the one percent significance level, it was discovered that the respondents' knowledge level and their exposure to the mass media had a positive and significant relationship. Similar association was signified by Patra et al., (2023). Cosmopolitanism fosters positive connections in all facets of a person's life. Here, too, it was discovered to have a positive and statistically significant correlation with knowledge level at the 1% significance level, confirming that the greater one's likelihood of learning more. Similar association was found by Lakshmi Raj et al., (2023). The respondents' degree of happiness and participation in the process did not significantly correlate with their level of expertise. Socio-economic factors often have less of an impact on knowledge or skills acquisition; instead, they depend more on psychological and communication factors. However, land ownership was discovered to be a key predictor in the current study along with a few communication variables (Arun Kumar et al., 2021; Babu et al., 2021).

The lowest knowledge gain was found among the medical and nursing course beneficiaries among all course groups. Also, in the case of some course groups, significant differences in knowledge level were found among beneficiaries. The inability in the part of the participant or trainer and course designer may be suspected which contributed towards less knowledge acquisition in medical and nursing courses. Also, the difficulty level of a particular course and scope of employment may have an effect on less developed (knowledge wise) participants in medical and nursing courses. Particularly with regard to vocational training programs, the participant's attention and subsequent acquisition of information are frequently determined by the content's relevance, utility and employment (Gupta, 2018; et al., Kobba et al., 2019; Kobba et al., 2020; Babu et al., 2021). ICT and construction were therefore found to be more effective than other courses based on knowledge formation among participants, which has better employability given



ICT evolution and current infrastructure push by the both government and business sector in a mineral rich state like Chhattisgarh.

### CONCLUSION

From the result and subsequent interpretation, it can be concluded that knowledge formation and its subsequent retention depend strongly upon the employability of the particular course. The social category and tendency of trainees to maintain contact outside of the social system is very important for deciding how much interested a respondent will be in gaining knowledge. However, the subsequent employability ultimately often decides the level of gain and retention of workable knowledge in the case of vocational training especially. Thus, policymakers should give more attention to improving the employability of the courses to improve knowledge gain and subsequent retention among beneficiaries.

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