

Continuous Professional Development (CPD) Expectations of Secondary School Teachers

A Pilot Study in Kendrapara and Cuttack Districts of Odisha

RATIKANTA SENAPATI* AND SUNIL KUMAR SINGH**

Abstract

Continuous Professional Development (CPD) is a continuous and systematic process by which in-service teachers enhance their professional knowledge, capabilities, and skills with time to cope with new and changing roles and new approaches to teaching. Any CPD programme should be intentional, on-going and systematic in nature. From the studies of Tewari (2016); Singh, Patel and Mishra (2019); Tyagi and Mishra (2021), it was found that most of the CPD programmes were organised without knowing the actual need of teachers. In the present pilot study, an online survey was conducted on 54 secondary school teachers from Kendrapara and Cuttack districts of Odisha by using convenience sampling method. A questionnaire comprising 14 items was used for obtaining the data. The items were designed to collect two-fold information from teachers, namely (i) their previous experience of participation in the CPD programme, and (ii) their further expectations from CPD courses. The results of this pilot study revealed that only 48 per cent of teachers had participated in any CPD programmes during their service. This study also revealed that the respondent teachers wanted to include skills like academic supervision and management, communication, child psychology, laboratory activity related skill and guidance counseling in their on-going CPD programmes. Also, they were

*UGC-JRF, Faculty of Education, Banaras Hindu University (K), Varanasi, (Uttar Pradesh)

**Professor, Faculty of Education, Banaras Hindu University (K), Varanasi, (Uttar Pradesh)

very much interested to include activities or practices like remedial teaching, workshop for workload management and professional enhancement, training on continuous online assessment in their CPD programmes. The details of this pilot study have been given in this paper.

INTRODUCTION

National Education Policy (NEP 2020) rightly mentions that, “Teachers truly shape the future of children, therefore, the future of a nation. Only the very best and most learned became teachers. Society gave teachers what they needed to pass on their knowledge, skills, and ethics optimally to students” (p. 20). This signifies the importance of teachers in India. They are the backbone of the Indian education system.

Quality education to students can only be possible by enhancing teacher’s professional competency by updating their existing skills and knowledge. So, it is important for the teachers to participate in such professional development (PD) programmes which aim to provide the latest knowledge, theories, technologies and skills to them. According to Tewari (2016), Professional Development (PD) programmes were meant for both pre-service and in-service teachers whereas Continuous Professional Development (CPD) programmes were for only in-service teachers. So, to enhance the in-service teachers’ competency level, CPD comes into picture (Singh and Gupta, 2021, p. 34). Srinivasacharlu (2019) has defined CPD as:

Ongoing divergent activities (formal, non-formal and informal) that aim at

developing the teacher’s intellectual abilities (cognitive domain), self-confidence, attitude, values, and interest (affective domain) and skills and competencies (psychomotor domain) for improving personality and to carry out the responsibilities of the teaching profession properly in accordance with the changing times and needs of the prospective teachers and society (p. 30). Thus, CPD can be said to be a continuous and systematic process by which in-service teachers enhance their professional knowledge, capabilities, and skills with time.

By realising the importance of CPD, NEP 2020 has also stressed the need of CPD for in-service teachers and recommended online professional development modules for them (p. 22). According to the Centre of CPD Excellence (2022), there are two types of CPD programme, i.e., formal and informal. Formal CPD is a structured learning consisting of interactive and participation-based activities such as attending training courses, workshops or seminars, undertaking e-learning courses, writing articles or presenting at conferences. Whereas informal or self-directed CPD is less structured and includes development activities such as reading relevant publications, news articles or magazines. In this study we have taken only formal CPD programmes of teachers.

It includes programmes given to them through different training or refresher courses during their service period.

We know that in India, people who have completed bachelor's degree in any discipline and had done B.Ed. are eligible to teach as secondary school teachers. However, they are needed to regularly renew their knowledge, capabilities and skills by participating in the CPD programme, to cope with new and changing roles and approaches to teaching. Accordingly, there are certain studies related to the current status of CPD programmes in India, which have been reviewed and summarised in the forthcoming paragraphs.

CURRENT STATUS OF CPD PROGRAMMES IN INDIA: A BRIEF REVIEW

According to Gartia and Sharma (2013), teachers need well designed CPD programmes and activities to be able to update their knowledge and skills, and change their teaching practice (p. 59). However, Tyagi and Misra (2021) found that CPD Programmes for teachers have remained a neglected area in India. Various factors like time, accessibility, staff motivation, financial issues, availability of programmes, work pressure and participation on time hampers the effectiveness of CPD programmes (p.118). This type of ineffective CPD programme does little to improve the quality of teachers. Tewari (2016) pointed out that most of the CPD programmes were organised without knowing the actual need of teachers. Top-down

approach of these programmes has been ineffective in bringing positive results among teachers (p. 48). This creates low satisfaction among participant teachers. That is why quite a few teachers show an awareness and willingness to participate in CPD and learn new things.

The other notable aspect is that available policies related to CPD treat all teachers alike and don't have any distinct provisions for different levels of teachers (Singh, Patel and Mishra, 2019). For example, NEP 2020 didn't recommend any specific CPD provisions and opportunities for secondary teachers. From the above related studies, it was clearly evident that current CPD programmes were not efficient enough to fulfill the need of teachers in India. It was not able to enhance their professional competency level as it wasn't framed as per their needs and requirements. Therefore, studies should be conducted in India to find out the expectation of teachers from their CPD programmes. Hence, the need for the present study was conceived.

NEED AND SIGNIFICANCE OF THE STUDY

CPD allows in-service teachers to learn new knowledge, skills and techniques. However, before subjecting them to participate in the CPD programme, it is necessary to find answers to the questions like:

- What is their previous experience of participation in CPD programmes?

- What are the expectations of teachers from CPD programmes? As the CPD programmes are meant for enhancing the professional skill of teachers, therefore, the answer of teachers on the two aspects is must to take into consideration while framing CPD courses. National Curriculum Framework for Teacher Education (NCF-TE)-2009 has also emphasised the same in the following words:

“All CPD programmes must find acceptance of their aims with the teachers’ group concerned, regarding whether they need such a programme and why they are to attend it. The principle of choice of programmes to attend, based on the teacher’s own assessment of what they need or is advised based on some valid assessment of professional requirement” (p. 66).

Hence, the present pilot study has focused to find out answers of the above raised questions from secondary school teachers of Kendrapara and Cuttack districts of Odisha. This study also aimed to find out further expectations of these teachers from their CPD programmes. Thus, it will not only help to give a deep understanding about the participation status of secondary school teachers about CPD programmes but also give an insider’s idea about the further expectations from CPD. The significance also lies in the fact that findings of this study will help to carry out more intensive study related to CPD. It will also help agencies and

organisers to improve the CPD courses as per the teacher’s need.

OBJECTIVES OF THE STUDY

The following three objectives were framed for the present study in the light of the above-mentioned need:

- To find out the participation status of secondary school teachers of Kendrapara and Cuttack districts of Odisha about CPD programmes.
- To find out the skills learnt by secondary school teachers of Kendrapara and Cuttack districts of Odisha during their CPD programmes.
- To find out further expectations of secondary school teachers of Kendrapara and Cuttack districts of Odisha from the CPD programmes.

RESEARCH DESIGN

For the present study, the ‘Pilot Survey’ method was used to know the opinion of secondary school teachers of Kendrapara and Cuttack Districts of Odisha about their participation status and further expectations from the CPD programmes. A pilot study is a preliminary small-scale study that researchers conduct in order to help them decide how best to conduct a large-scale research project (Crossman, 2019). However, conducting a pilot study doesn’t guarantee success in the main study, but it increases the likelihood of success by providing valuable insights for researchers (Teijlingen and Hundley, 2022).

SAMPLE

The research was conducted on 65 school teachers from secondary level schools in Kendrapara and Cuttack districts of Odisha State. The schools affiliated to both Central Board of Secondary Education (CBSE), New Delhi and Board of Secondary Education (BSE), Odisha were selected. The school teachers from chosen schools were selected by using

“Convenience sampling techniques”. Convenience sampling includes people who are available and willing to participate in the research study (Johnson and Christensen, 2014, para 10.11). Out of 65 teachers, the researcher could get final responses of 54 teachers only (Average response rate of 83 per cent). The demographic description of the sample has been given below in Table 1.

Table 1
Sample Profile

Name of Demo-graphic Variables	Number of School Teachers						Total Sample (N)
Board	CBSE			BSE			54
	Kendrapara		Cuttack	Kendrapara		Cuttack	
	6 (11.1%)		12 (22.2%)	16 (29.6%)		20 (37.03%)	
Teaching Experiences (Years)	0–2		3–10		> 10		
	Kendra-para	Cuttack	Kendra-para	Cuttack	Kendra-para	Cuttack	
	10 (18.5%)	15 (27.7%)	8 (14.81%)	11 (20.3%)	4 (7.4%)	6 (11.1%)	
Teaching Subjects	Science and Math (S and M)		Humanities and Social Science (H and SS)		Languages (LAN) (English, Odia, Sanskrit)		
	Kendra-para	Cuttack	Kendra-para	Cuttack	Kendra-para	Cuttack	
	8 (14.8%)	15 (27.7%)	6 (11.1%)	9 (16.6%)	8 (14.8%)	8 (14.8%)	

TOOLS FOR DATA COLLECTION

A Google-Form questionnaire named “In-service Teachers’ CPD Questionnaire-ITCPDQ” developed for the study was distributed to 65 secondary school teachers. The questionnaire contained 14 items, consisting of two parts A and B. Part-A consisted of 6 items which gave data about the personal information of teachers, namely: Name, School Name, Present Post, Length of Service,

Teaching Subjects and Contact number. Part-B consisted of 8 items containing three types of questions such as dichotomous, multiple choice and short answer. The reliability and validity of the questionnaire were adjudged with the help of experts having considerable experience of developing research tools. The objective-wise description of the items of the questionnaires (ITCPDQ) are as given below in Table 2.

Table 2
Objective-wise Description of the Items of ITCPDQ

Objectives	Items of ITCPDQ
1. To find out the participation status of secondary teachers of Kendrapara and Cuttack districts of Odisha about CPD programmes.	<p>Question 1.1: Have you participated in any CPD programme/s during your service?</p> <p>Question 1.2: If yes, name the organiser or agencies who conducted your CPD programme.</p> <p>Question 1.3: If yes, also name the mode of transaction of your CPD programme.</p> <p><i>*Out of these 3 items, 1st item was Dichotomous type (Yes or No) and compulsory for all the respondent teachers. Next two items were Short-answer type and for those teachers who have participated in any CPD</i></p>
2. To find out the skills learnt by secondary school teachers of Kendrapara and Cuttack districts of Odisha during their CPD programmes.	<p>Question 2.1: Choose the Skills you have learnt during the CPD programme from the below list of 10 skills identified from your CPD courses. (You may choose more than one option).</p> <p>I. Leadership Development, II. Integration of ICT in Teaching Learning, III. Assessment of learning outcome, IV. Competency-based pedagogy, V. Academic Supervision and Management, VI. Developing Social-Personal Qualities, VII. Curriculum and Inclusive Classroom, VIII. Health and Well-Being, IX. Understanding the Learners, and X. Others</p> <p><i>*These items are only for those teachers who participated in CPD</i></p>

<p>3. To find out further expectations of secondary school teachers of Kendrapara and Cuttack districts of Odisha from the CPD programmes.</p>	<p>Question 3.1: What other programmes do you think need to be included in your CPD programme?</p> <p>Question 3.2: What activities or practices do you think must be included in the CPD programme for school teachers?</p> <p>Question 3.3: Which mode do you prefer for the transaction of CPD programmes?</p> <p>Question 3.4: Which innovative skills do you think every school teacher ought to develop to excel as an effective teacher?</p> <p><i>*The above items were compulsory for teachers. Out of the above 4 items, 3rd item was Dichotomous type (online or face-to-face), while others were Short-answer type.</i></p>
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Statistical Analysis

After collecting and scoring, data analysis was done by use of frequency, percentage and Kruskal-Wallis H-test. Kruskal-Wallis H-test is a rank-based non-parametric test used to determine whether or not there is a statistically significant difference between the medians of three or more independent variables on a continuous or ordinal dependent variable (Zach, 2019). Analysis of data was done with the help of Statistical Package for Social Science (SPSS) version 26. All statistical analyses were done at 0.05 level of significance.

Objective-wise analysis and Interpretations

The objective-wise analysis and interpretation of the study have been presented as follows:

Analysis related to first objective:

Participation status of secondary school teachers in CPD programme

The first objective of the study was to find out the participation status of secondary school teachers in CPD programmes. For the fulfillment of this objective, ITCPDQ questionnaire had three questions. The question wise clubbed responses of secondary school teachers from Kendrapara and Cuttack districts of Odisha have been presented in below given Tables 3.1, 3.1.1, 3.2 and 3.3 followed by related interpretations.

Table 3.1, revealed that only 48 per cent teachers from Kendrapara and Cuttack districts of Odisha have participated in any CPD programmes during their service period. It also reflected that the majority of secondary

Table 3.1

Secondary School Teacher's Responses About their CPD Participation Status

Question 1.1	CPD Participation Status	Clubbed Responses of Secondary School Teacher
Have you participated in any CPD programme/s during your service?	YES	26 (48%)
	NO	28 (52%)

Table 3.1.1
Demographic Variables-based Teacher Participation
Status in CPD Programmes

Demographic Variables	No. of School Teachers Participated in CPD Programmes			Total
Board	CBSE		BSE	
	8 out of 18 (44.4%)		18 out of 36 (50%)	
Experiences (Years)	0-2	3-10	More than 10	26 out of 54 (48%)
	10 out of 25 (40%)	10 out of 19 (52.6%)	6 out of 10 (60%)	
Teaching Subjects	Science and Math	Languages (English, Odia, Sanskrit)	Humanities and Social Science	
	12 out of 23 (52.1%)	7 out of 15 (46.6%)	7 out of 16 (43.7%)	

school teachers (52 per cent) could not participate so far in any CPD programmes during their service.

Further, Table 3.1.1 above reflects the participation status of secondary school teachers in CPD programmes with respect to different demographic variables.

Discussion about Teachers Participation Status in CPD Programmes

Table 3.1.1 reflects that Participation rate in CPD programmes among CBSE and BSE teachers was found to be 44.4 per cent and 50 per cent, respectively. It also reflects that CPD participation rate of CBSE teachers was less than

that of BSE teachers. CPD participation rate among teachers with experiences (years) of 0-2, 2-10, and more than 10 years were found to be 40 per cent, 52.6 per cent, and 60 per cent respectively. This shows CPD participation rate was low in those teachers having less teaching experiences. Similarly, CPD participation rate among teachers with teaching subjects like Science and Math, Language and Humanities and Social Science were found to be 52.1 per cent, 46.6 per cent and 43.7 per cent respectively. This shows science and math teachers have participated in more CPD programmes than other two categories of subjects.

Table 3.2
Description about Agencies or Organisers Conducting
CPD Programmes

Question 1.2	Boards	Agencies or Organisers Conducting CPD Programmes	Name of the CPD Programmes (with no. of Teachers Participants)	Total
Name the Organiser or Agencies who conducted your CPD programme.	CBSE (KVS)	Department of School Education and Literacy under the Ministry of Education	NISHTHA (5)	10
		National Council of Educational Research and Training (NCERT)	DIKSHA (3)	
		Indian Institute of Science (IISc)	Teachers Training Programme (1)	
		NGOs	Techers' Professional Development Programme (1)	
	BSE (S and M Dept. Odisha)	Odisha School Education Programme Authority (OSEPA)	Refresher in-service teacher training up to 10 days (8)	23
		Department of School Education and Literacy under Ministry of Education	NISHTHA (5)	
		National Council of Educational Research and Training (NCERT)	DIKSHA (3)	
		Teacher Education and State Council of Educational Research and Training (SCERT), Odisha	Capacity Building Programme (2)	
		Health Department, Odisha	Health Awareness Programme (2)	
		NGOs and Others	Techers' Professional Development Programme (3)	

**Discussion about Agencies/
Organisers Conducting CPD
Programmes**

Table 3.2 revealed that most of the teachers (both CBSE and BSE) who participated in CPD programmes like DIKSHA and NISHTHA choose Department of School Education and Literacy and NCERT as their organiser under the Ministry of Education, Government of India. While other teachers mentioned various agencies like OSEPA, Piramal foundation, Pratham NGOs, Odisha Knowledge Corporation Limited (OKCL), etc. as the organisers for their CPD programmes. About 25 per cent teachers from CBSE board and 27.77 per cent teachers from BSE board participated in more than one CPD programmes.

**Overdues of CPD Programme's
Transaction Mode**

Table 3.3 reveals that the majority (61.53 per cent) of teachers participated

in CPD programmes through face-to-face mode. CBSE board teachers participated in CPD programmes more through online mode than face-to-face, while the number was opposite for BSE board teachers. Teachers having 0–2 and 3–10 years of teaching experiences participated in CPD programmes through face-to-face mode rather than online mode. Whereas teachers having more teaching experiences (>10 years) participated in CPD programmes through both the modes equally. Teachers teaching Science and Math, and language subject preferred face-to-face as their participation mode in CPD programme than online mode. Whereas Humanities and Social Science teachers preferred online mode to participate in CPD programmes than face-to-face mode.

Table 3.3
Description about Mode of Transaction of CPD Programme

Question 1.3	Demo- graphic Variables	Teachers Participate The CPD Programme in Face-to-Face Mode			Teachers Participate the CPD Programme in Online Mode		
		CBSE		BSE	CBSE		BSE
Name the mode of transaction of your CPD programme	Board	3		13	5	5	
		0–2	3–10	> 10	0–2	3–10	> 10
	Teaching Experience (Years)	7	6	3	3	4	3
		Science and Math	Languages (English, Odia, Sanskrit)	Human- ities and Social science	Science and Math	Langua- ges (English, Odia, Sanskrit)	Human- ities and Social science
	Teaching Subjects	9	5	2	3	2	5

Analysis Related to Second Objective: Skills Learnt by Secondary School Teachers during their Participated CPD Programmes

The Second objective of the study was to find out the Skills learnt by secondary school teachers during CPD programmes. For the fulfillment of this objective, ITCPDQ questionnaire had one question for only those teachers who had taken part in any CPD programme during their service. The related question based clubbed responses of secondary school teachers from Kendrapara and Cuttack districts of Odisha have been presented in the below given Tables 4.1 and 4.1.1 followed by related interpretations.

Discussion about Skills Learnt by CPD Participant

Based on the Table 4.1, researchers arranged the skills rank-wise on the basis of teachers' responses. They are:

- Integration of ICT in teaching-learning,
- Leadership development,
- Assessment of learning outcome,
- Competency-based pedagogy and
- Curriculum and Inclusive classroom
- Developing social-personal qualities.

These programmes were given maximum priorities by the organisers in any CPD courses. However, programmes like health and well-being, academic supervision and management, and understanding the

Table 4.1
Description about Skill Learnt by Participant Teachers from their CPD

Question 2.1	Skills Learnt During CPD by Participant Teachers	No. of Responses Frequency (in %)	Rankings
Choose the skills you have learnt during the CPD programme from the below list of 10 skills identified from your CPD courses. (You may choose more than one option)	Leadership Development	16 (61.53)	II
	Integration of ICT in Teaching-Learning	20 (76.92)	I
	Assessment of Learning Outcome	15 (57.69)	III
	Competency-based Pedagogy	14 (53.84)	IV
	Academic Supervision and Management	10 (38.46)	VIII
	Developing Social-Personal Qualities	12 (46.15)	VI
	Curriculum and Inclusive Classroom	14 (53.84)	IV
	Health and Well-Being	11 (42.30)	VII
	Understanding the Learners	8 (30.76)	X
	Others	10 (38.46)	VIII

Table 4.1.1
Test Statistics (a, b): (a: Kruskal Wallis Test, b: Grouping Variables: Boards, Teaching Experiences and Teaching Subjects)

a: Kruskal Wallis Test	b: Grouping Variables							
	Boards		Teaching Experience (Years)			Teaching Subjects		
Mean Rank	CBSE	BSE	0-2	2-10	>10	S and M	LAN	H and SS
	6.84	10.3	10.7	10.5	10.3	11.6	12.1	11.4
Kruskal-Wallis H	7.25		1.86			1.48		
Df	1		2			2		
Asymp. Sig. (p)	0.007		0.393			0.477		
Interpretation	Distribution of no. of response of teachers weren't same across categories of Boards.		Distribution of no. of response of teachers were same across categories of Teaching Experiences.			Distribution of no. of response of teachers were same across categories of Teaching Subjects.		

learners were given less priority though these programmes were part of many CPD courses.

Table 4.1.1 revealed that Kruskal-Wallis H-test for responses of teachers on the basis of different Boards; $H(1) = 7.25, p = 0.007 (<.05)$ showed a statistically significant difference in responses between two boards. This means responses of CBSE and BSE board teachers about skills learnt in CPD programme differed from each other. While Kruskal-Wallis H-test for responses of teachers with different Teaching Experiences; $H(2) = 1.868, p = 0.393 (>.05)$ and Teaching Subjects $H(2) = 1.484, p = 0.497 (>.05)$ was found not to be statistically significant difference at 0.5 level. Hence, the distribution of responses

of secondary school teachers were similar irrespective of their teaching experiences and Teaching Subjects.

Analysis related to Third objective: Further expectations of secondary school teachers from their CPD programmes

The third objective of the study was to find out the further expectations of secondary school teachers from their CPD programmes. For the fulfillment of this objective, ITCPDQ questionnaire had four questions. The question-wise clubbed responses of secondary school teachers from Kendrapara and Cuttack districts of Odisha have been presented in the below given Tables 5.1, 5.1.1, 5.2, 5.2.1, 5.3, 5.3.1, 5.4 and 5.4.1 followed by related interpretations.

Table 5.1
Other Skills that Need to be Included in CPD Courses

Question 2.1	Skills	Number of Responses	Rankings
What other programmes do you think need to be included in your CPD programme?	Child Psychology	7	IV
	Guidance and Counseling	10	II
	Vocational Education	6	V
	Management Skills	12	I
	Laboratory Activity Related Skill	7	III
	Communication skills	5	VII
	No need	6	V

Discussion about other skills that need to be included in CPD courses

Based on the above Table 5.1, it was found that secondary school teachers from Kendrapara and Cuttack districts of Odisha wanted to add some more skills in the existing CPD

for their holistic development. These programmes were arranged rankwise on the basis of teachers' responses as— (i) management skills development, (ii) guidance counseling, (iii) laboratory activities related skills, (iv) child psychology, (v) communication skills development, (vi) vocational education.

Table 5.1.1
Test Statistics (a, b): (a: Kruskal Wallis Test, b: Grouping Variables; Boards, Teaching Experiences and Teaching Subjects)

a: Kruskal Wallis Test	b: Grouping Variables							
	Boards		Teaching Experience (Years)			Teaching Subjects		
Mean Rank	CBSE	BSE	0-2	2-10	>10	S and M	LAN	H and SS
	7.71	7.29	8.30	8.05	7.95	7.75	7.52	7.61
Kruskal-Wallis H	2.442		3.018			0.899		
Df	1		2			2		
Asymp. Sig. (p)	0.118		0.221			0.638		
Interpretation	Distribution of no. of response of teachers were same across categories of Boards.		Distribution of no. of response of teachers were same across categories of Teaching Experiences.			Distribution of no. of response of teachers were same across categories of Teaching Subjects.		

Table 5.1.1 reveals that Kruskal-Wallis H-test for responses of teacher on basis of different Boards; $H(1) = 2.442$, $p = 0.118$, Teaching Experiences; $H(2) = 3.018$, $p = 0.393$ and teaching subjects $H(2) = 0.899$, $p = 0.638$ showed not statistically significant difference at 0.05 level as all the p values were greater than 0.05. Hence, we can say that the distribution of responses of respondent secondary school teachers were similar irrespective of their boards, teaching experiences and teaching subjects.

Key Activities/Practices to be included in a CPD Programme

It was seen from Table 5.2 that secondary school teachers were interested in some other activities or practices and wanted to include those activities in their CPD programmes. These activities or practices were arranged rank wise on the basis of teachers' response. These activities were— (i) Workshop for workload management and professional enhancement, (ii) Training on continuous

Table 5.2
Preferred Activities or Practices included in a CPD Programme

Question 3.2	Activities or Practices	No. of Responses	Rankings
What activities or practices do you think must be included in the CPD programme for school teachers?	Remedial teaching	10	III
	Activities to develop creativity and innovation among students	8	IV
	Workshop for professional enhancement and workload management	12	I
	Training on continuous online assessment	11	II
	Understanding the learners	6	VI
	Health, hygiene	7	V

Table 5.2.1
Test Statistics (a, b): (a: Kruskal Wallis Test, b: Grouping Variables; Boards, Teaching Experiences and Teaching Subjects)

Kruskal Wallis Test	Grouping Variables							
	Boards		Teaching Experience (Years)			Teaching Subjects		
Mean Rank	CBSE	BSE	0–2	2–10	>10	S and M	LAN	H and SS
	5.95	6.12	6.05	6.12	6.08	6.30	5.95	6.1
Kruskal Wallis H	1.962		1.966			2.991		
Df	1		2			2		
Asymp. Sig. (p)	0.161		0.374			0.224		
Interpretation	Distribution of no. of response of the teachers were same across categories of boards.		Distribution of no. of response of the teachers were same across categories of teaching experience.			Distribution of no. of response of the teachers were same across categories of teaching subjects.		

online assessment, (iii) Remedial teaching, (iv) Developing creativity and innovation among students, (v) Workshop on health and hygiene. Based on Table 5.2.1, Kruskal Wallis H-test for responses of teacher on basis of different Boards; $H(1) = 1.962$, $p = 0.161$, Teaching Experiences; $H(2) = 1.966$, $p = 0.374$ and Teaching Subjects $H(2) = 2.994$, $p = 0.224$ showed not statistically significant different at 0.05 as all the p values were greater than 0.05. Hence, the distribution of number. of responses of

respondent secondary school teachers were similar irrespective of their boards, teaching experiences and teaching subjects.

Preferred SC: Mode to Participation CPD Programme

Table 5.3 showed that majority of teachers (72.2 per cent) selected face-to-face as their preferred mode of transaction to participate in any CPD programme.

Further, Table 5.3.1 below reflects the responses of secondary school teachers about the preferred mode

Table 5.3
Preferred Mode of Transaction of Teachers to Participate in Any CPD Courses

Question 3.3	Preferred Mode	No. of Responses
Which mode do you prefer for the transaction of CPD programmes?	Face-to-face	39 (72.2%)
	Online	15 (27.8%)

Table 5.3.1
Demographic Variables-based Teacher Participation Status in CPD

Demo-graphic Variables	Preferred Mode of Transaction of Teachers to Participate in any CPD						Total Sample (N)
	Face-to-Face Mode			Online Mode			
Board	CBSE		BSE	CBSE		BSE	54
	10		29	8		7	
Teaching Experience (Years)	0-2	3-10	> 10	0-2	3-10	> 10	
	18	13	8	7	6	2	
Teaching Subjects	Science and Math	Langua-ges	Human-ities and Social science	Science and Math	Langua-ges	Human-ities and Social science	
	14	12	13	9	2	4	

of transaction to participate in any CPD courses with respect to different demographic variables.

Table 5.3.1 reveals that face-to-face as preferred mode of participation in CPD programmes among CBSE and BSE teachers were found to be 55.5 per cent and 80.5 per cent, while in case of online 44.5 per cent and 19.5 per cent respectively. Similarly, teachers with 0-2, 3-10 and >10 years of teaching experiences selected face-to-face as their preferred mode were 72 per cent, 68.4 per cent and 80 per cent while 28

per cent, 31.6 per cent and 20 per cent selected online mode. Also, teachers with teaching subjects like Science and Math, Language and Humanities and Social Science selected face-to-face as their preferred mode were 60.8 per cent, 85.7 per cent and 76.4 per cent while 39.2 per cent, 14.3 per cent and 23.6 per cent selected online mode. This shows teachers preferred face-to-face mode than online to participate in CPD programmes irrespective of their boards, teaching experiences and teaching subjects.

Table 5.4
Innovative Skills that Every Teacher Ought to Develop to Excel as an Effective Teacher

Question 3.4	Innovative Skills	No. of Responses	Rankings
Which innovative skills do you think every school teacher ought to develop to excel as an effective teacher?	Leadership Skills	7	V
	Pedagogical Skills	9	III
	Digital or ICT Skills	13	I
	Management Skills	11	II
	Communication Skills	6	VI
	TLM Preparation Skills	8	IV

Table 5.4.1
Test Statistics (a, b): (a: Kruskal Wallis Test, b: Grouping Variables; Boards, Teaching Experiences and Teaching Subjects)

a. Kruskal Wallis Test	b. Grouping Variables							
	Boards		Teaching Experiences (Years)			Teaching Subjects		
Mean Rank	CBSE	BSE	0-2	2-10	>10	S and M	LAN	H and SS
	5.85	6.15	6.05	6.12	6.07	5.97	6.03	5.95
Kruskal-Wallis H	3.017		1.421			0.799		
Df	1		2			2		
Asymp. Sig. (p)	0.082		0.491			0.671		
Interpretation	Distribution of no. of teachers' response were same across categories of Boards.		Distribution of no. of teachers' response were same across categories of teaching experiences			Distribution of no. of teachers' response were same across categories of Teaching Subjects.		

Key Skills a Teacher Requires to Excel as an Effective Teacher

It was seen from Table 5.4 that respondent teachers were interested in developing some innovative skills to excel as an effective teacher. These innovative skills were arranged rankwise on the basis of teachers' response. These were— (i) Digital or ICT skills (ii) Management skills (iii) Pedagogical Skills (iv) TLM preparation skills (v) Leadership skills (vi) Communication skills.

Based on Table 5.4.1, Kruskal-Wallis H-test for responses of teachers on basis of different Boards; $H(1) = 3.017$, $p = 0.082$, Experiences; $H(2) = 1.421$, $p = 0.491$ and Teaching Subjects $H(2) = 0.799$, $p = 0.671$ showed not statistically significant difference at 0.05 level as all the values of p were greater than 0.05.

Hence, the distribution of responses of secondary school teachers were similar irrespective of their boards, teaching experiences and teaching subjects.

FINDINGS OF THE STUDY

On the basis of the above presented analysis and interpretations, following objective-wise findings have been obtained.

Findings related to first objective: Participation status of secondary teachers in CPD.

The analysis and interpretation related to the first objective based on Tables (3.1, 3.2, 3.3) revealed the following:

(i) 48 per cent of the secondary teachers from Kendrapara and Cuttack districts of Odisha had participated in CPD programmes. About

45–50 per cent teachers of both boards (CBSE, BSE) had participated in the CPD programmes during their service period. Participation numbers in CPD were very less in case of newly recruited teachers. Science and Math subject teachers had better participation percentage as compared to language and Humanities and Social Science teachers.

(ii) Most of the teachers of both the boards (CBSE and BSE) who participated in CPD programmes like DIKSHA and NISHTHA choose Department of School Education and Literacy and NCERT respectively as their organiser. While other teachers mentioned various agencies like OSEPA, Piramal foundation, Pratham NGOs, Odisha Knowledge Corporation Limited (OKCL), etc., as the organisers for their CPD programmes.

(iii) Majority of respondent teachers participated in CPD programmes through face-to-face mode. However, CBSE board teachers preferred to participate in CPD programmes through online mode whereas BSE board teachers participated through face-to-face mode. Teachers having less teaching experience (up to 10 years) participated in CPD programmes through face-to-face mode whereas teachers having more teaching experiences (>10 years) participated in CPD programmes through both the modes equally. Teachers teaching Science and Math, and Language subjects preferred face-to-face as their participation mode in CPD programme whereas

Humanities and Social Science teachers preferred online mode.

Findings related to Second objective: Skills learnt by secondary school teachers during their participated CPD programmes.

The analysis and interpretation related to the second objective based on Tables (4.1 and 4.1.1) revealed the following:

(i) CPD programmes embedded with different types of skill development programmes were attended by the participating secondary school teachers to enhance their professional competency level. These programmes included integration of ICT in teaching-learning, leadership development, competency-based pedagogy, assessment of learning outcomes, curriculum and inclusive education, academic supervision and management, and developing social-personal qualities. The distribution of responses of secondary school teachers were similar irrespective of their teaching experiences and teaching subjects. However, teachers of the two boards, i.e., CBSE and BSE differed significantly in their responses.

Findings related to third objective: Further expectations of secondary school teachers from their CPD programmes.

The analysis and interpretation related to the third objective based on Tables (5.1, 5.2, 5.3 and 5.4) revealed the following:

(i) The respondent secondary school teachers were especially interested in programmes like developing

communication skills, children psychology, laboratory skill related activities, workload management skills and wanted these to be included in their CPD courses in future.

(ii) They were also interested in the inclusion of the activities or practices, namely training on continuous online assessment, workshops for professional enhancement and workload management, remedial teaching, activities to develop creativity and innovation among children, in their future CPD programmes.

(iii) Majority of them preferred face-to-face as their mode of participation in CPD programmes as compared to online mode irrespective of their boards, teaching experiences and teaching subjects.

(iv) Respondent teachers were interested in developing some innovative skills like digital or ICT skills, management skills, pedagogical skills, TLM preparation skills and communication skills to excel as an effective teacher.

CONCLUSION AND DISCUSSIONS

From the findings of this pilot study, two conclusions have been finally obtained. The first conclusion was that not more than 50 per cent secondary school teachers from Kendrapara and Cuttack districts of Odisha had participated in at least one CPD programme during their service periods. The reasons for non-participation were not worked out. Majority of the respondent teachers preferred face-to-face mode for participating in any CPD programmes.

The second conclusion was that ongoing CPD programmes included different types of skill development programmes like; ICT in teaching-learning, leadership development, competency-based pedagogy, assessment of learning outcomes, curriculum and inclusive education, academic supervision and management.

Besides these programmes, the respondent teachers wanted to include activities and skills like communication, child psychology, laboratory related activities, pedagogy, workshop on TLM preparation, remedial teaching and online assessment in their future CPD programmes. Hence, the organisers of CPD programme while developing a CPD module or course, should include those programmes and skills according to the needs of the teachers. This will help to develop interest of teachers towards the CPD programme and fulfill the recommendation of NEP-2020 which focuses that every teacher should take part in 50 hours CPD programme training every year (p. 22).

Further, this being a pilot study needs to be undertaken further on a large sample of teachers in Odisha. The reason for non-participation of teachers in CPD courses and programmes should also be researched to attract all teachers towards CPD to fulfill NEP-2020 vision. It is also significant to note that while developing fresh CPD programmes (online or face-to-face) for teachers there is a need to incorporate above indicated skill areas demanded by teachers.

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