EMPOWERING TEACHERS: EVALUATING LEARNING OUTCOMES FROM TRAINING PROGRAMMES FOR HIGH SCHOOL AND HIGHER SECONDARY SCHOOL TEACHERS IN KERALA

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Abstract

This study investigates the efficacy of training programmes designed for high school and higher secondary teachers in Kerala, aiming to empower teachers. Through a comprehensive evaluation of learning outcomes, the research employs a mixed-methods approach, incorporating surveys, interviews, and classroom observations. The findings illuminate the impact of these initiatives on professional development and teaching practices. The study's insights contribute to the ongoing discourse on educational enhancement, providing valuable information for policymakers and education stakeholders. Ultimately, this research seeks to foster a deeper understanding of the transformative potential of training programmes in empowering teachers and improving the overall quality of education in Kerala.

Keywords:- learning outcome, empowerment, training programmes, professional development, high school and higher secondary teachers.

Education is a cornerstone of societal progress, and teachers are its architects, shaping young minds and preparing them for the future. In Kerala, renowned for its strong educational system, the role of high school and higher secondary school teachers is pivotal. Training programs play a crucial role in enhancing their capabilities, ensuring they are equipped to deliver quality education. However, the effectiveness of these programs in improving teaching practices and student outcomes is a topic of interest and scrutiny.

The state government and educational institutions in Kerala have implemented various training programs to enhance the

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skills and knowledge of teachers. These programs aim to equip teachers with the latest pedagogical techniques, subject knowledge, and technology integration skills. By enhancing teacher competencies, these programs strive to improve student engagement, academic performance, and overall learning outcomes.

Despite the efforts to enhance teacher training, there is a need to evaluate the effectiveness of these programs. This evaluation requires an in-depth analysis of the impact of training on teachers' professional development and classroom practices. By assessing the learning outcomes of these programs, we can gauge their effectiveness in improving teaching quality and student learning.

One of the key challenges faced by training programs is ensuring that they are tailored to meet the diverse needs of teachers. High school and higher secondary school teachers come from various backgrounds and have different levels of experience and expertise. Therefore, training programs must be designed to cater to these diverse needs, providing relevant and practical skills that can be applied in the classroom. Additionally, the evaluation of training programs should consider the long-term impact on teachers' professional growth and development. It is not enough to assess immediate learning outcomes; the effectiveness of training should be measured in terms of its lasting impact on teachers' practices and attitudes towards teaching.

Training programs should be evaluated based on their ability to foster a culture of continuous learning among teachers. Professional development is an ongoing process, and training programs should instil a sense of curiosity and a desire for self-improvement among teachers.While the emphasis on training programmes for teachers in Kerala is commendable, it is crucial to address the challenges that may impede their full potential. This exploration will delve into identified obstacles, whether they be resource constraints, implementation hurdles, or cultural nuances. Simultaneously, exploring the opportunities within these challenges seeks innovative solutions and potential avenues for further enhancement of these training initiatives.

Understanding the intricacies of both challenges and opportunities is paramount for refining and optimizing the impact of educational empowerment in Kerala. As findings and insights derived from the evaluation are unravelled, the focus shifts to envisioning the future of teacher training in Kerala. Recommendations arising from this study will not only critique the existing programmes but also propose strategic avenues for improvement and expansion. The ultimate aim is to provide a roadmap for policymakers and education stakeholders, facilitating informed decisions that propel educational empowerment forward. By charting the future course based on empirical evidence, this exploration contributes to the ongoing narrative of educational excellence in Kerala.

Statement of the Problem

The educational landscape in Kerala, while marked by progressive policies and dedicated initiatives, faces the challenge of

ensuring optimal learning outcomes for high school and higher secondary school students. Despite the implementation of various training programs for teachers, the efficacy and impact of these initiatives remains a subject of inquiry. Understanding the factors influencing the effectiveness of these programs is crucial for addressing potential gaps in the educational system.

Need and Significance of the Study

This study is prompted by the need to comprehensively assess the learning outcomes resulting from training programs for high school and higher secondary school teachers in Kerala. The significance lies in uncovering insights that can inform evidence-based decisions, thereby enhancing the quality of education. By scrutinizing the effectiveness of these programs, we aim to contribute valuable information to policymakers, teachers, and stakeholders, facilitating informed interventions and improvements in teacher training methodologies.

Scope of the Study

The study focuses specifically on training programs designed for high school and higher secondary school teachers in Kerala. It encompasses an analysis of various types of training initiatives, their objectives, and their impact on teachers' capabilities and learning outcomes. The geographical scope includes high school and higher secondary schools across the state of Kerala. While the study primarily adopts a quantitative approach through statistical analyses, qualitative insights from teachers and program facilitators will also be incorporated to provide a holistic understanding of the training program dynamics.

Operational Definition of Key Terms

1. **Learning Outcomes:** Observable and measurable results of the learning process, indicating the knowledge, skills, and abilities gained by teachers after participating in training programmes.
2. **Professional Development:** Continuous learning and skill enhancement activities undertaken by teachers to stay abreast of current research, trends, and methodologies in their field, ultimately improving teaching practices.
3. **Training Programmes:** Structured educational initiatives designed by educational institutions or government to enhance specific skills, knowledge, or competencies of participants, often targeted at professionals such as teachers to improve their effectiveness in their roles.
4. **Empowerment:** The process of providing teachers, with the knowledge, skills, and confidence to take control of their professional development and contribute positively to the learning environment.
5. **High School and Higher Secondary School Teachers**: Specifies the target audience of the training programmes, which includes teachers working in high schools and higher secondary schools in Kerala.

Objective of the Study

To evaluate the learning outcomes imparted by the training programmes among high school and higher secondary school teachers in Kerala.

Review of literature

Aarti, J., Vasanthi, S. (2018) Indicates that in-service training programs like the Sarva Shiksha Abhiyan (SSA) are crucial for enhancing the skills and knowledge of teachers. The study in the Nilgiris District found that primary school teachers participating in the SSA in service training program faced various challenges, yet they expressed high satisfaction with the program. Additionally, teachers expressed a desire for more innovative curriculum-based courses focusing on new technologies in the future.

Hafeez, M. (2021) aimed to assess the impact of different teaching methods and teacher training on secondary school students' academic achievements and interests in computer courses. Results showed that post-training, all teaching methods led to increased academic achievements and interests among students, with the demonstration teaching method ranking highest and the lecture teaching method ranking lowest.

Ventista, O. M., & Brown, C. (2023) Identify effective forms of professional development for educators that positively impact student outcomes. Out of 125 studies reviewed, only 11 with experimental or quasi-experimental designs focused on students' learning, indicating that training, ongoing coaching, and collaborative Continuous Professional Development (CPD) were associated with enhanced student skills and learning. However, none of the studies specifically assessed the impact of learning communities on student learning, suggesting a need for future research to explore a broader range of CPD approaches and their effects on diverse student outcomes.

Research Methodology

1. **Research Design:** The study employs a cross-sectional research design to capture a snapshot of the learning outcomes and characteristics of high school and higher secondary school teachers in Kerala at a specific point of time.
2. **Sampling:** The sample consists of 372 teachers selected using a stratified random sampling technique. Stratification is based on factors such as gender, status of teacher (Government and Aided), category of school (high school and higher secondary), and department (Science, Social Science, and Language).
3. **Data Collection:** Quantitative data were collected through structured questionnaire focusing on learning outcomes and demographic details. It includes questions on the perceived effectiveness of training programs and self-reported professional development.
4. **Demographic Variables**: Demographic information includes gender, status of teacher, category of school and department. This allows for a detailed analysis of the sample's composition.

5. **Data Analysis**: Descriptive statistics such as percentages, means, and standard deviations are used to analyse demographic variables and summarize the responses. Inferential statistics, including Analysis of Variance (ANOVA) is employed to identify relationships and differences between variables.

The analysis given in Table 1 reveals that there is a gender disparity among the teachers, with a notable majority being female. Specifically, 27.2 per cent of the sample teachers are male; while a substantial 72.8 per cent are female, indicating a higher representation of women in the teaching profession.

In terms of the type of schools represented in the sample, the data indicates that the majority of teachers come from Government schools. Aided schools account for 34.1 per cent of the sample, while a significant 65.9 per cent of teachers are affiliated with Government schools, highlighting the dominance of this category in the study.

The status of teachers, categorized by their level of teaching, shows that a significant majority are from higher secondary schools. Specifically, 39.5 per cent of the sample teachers are from high schools, while a larger proportion (60.5 per cent) are from higher secondary schools. This distribution signifies a higher

Table 1

Demographic Profile of Teachers

Variables	Frequency	Percentage
Gender		
Male	101	27.2
Female	271	72.8
Total	**372**	**100**
Category		
Aided	127	34.1
Government	245	65.9
Total	**372**	**100**
Status of teacher		
High School	147	39.5
Higher Secondary	225	60.5
Total	**372**	**100**
Department		
Science	124	33.3
Social science	124	33.3
Language	124	33.3
Total	**372**	**100**

Source: Primary Data

concentration of educators in the higher secondary level.

Further categorization based on department reveals an even distribution of teachers across Science, Social Science, and Language departments. Each department represents 33.3 per cent of the sample, indicating a balanced representation of educators across these key academic disciplines.

Data Analysis and Interpretation

Objective: *To evaluate the learning outcomes imparted by the training programmes among high school and higher secondary school teachers in Kerala.*

Hypothesis

H0*. The Learning Outcome of the training programmes based on the categorical variables Status of teacher, Category of school and Department are the same.*

To evaluate the Learning Outcome, Table 2 demonstrates that the mean score awarded by the Aided stream High school teachers of Science, Social science and Language is found high effect. At the same time, the score is high (3.5776±0.9508) for the Government stream High school teachers of Science faculty and moderate for the Social science (3.2021±0.94683) and Language (3.2429±0.90806).

Similarly, the mean score awarded by the Government stream Higher secondary school teachers of Science, Social science and Language is found high effect for the Learning Outcome. But, the score is moderate (3.0846±0.85012) for the Aided stream Higher secondary school teachers of Science faculty and high for the Social science (3.3115±0.90457) and Language (3.4827±0.95719).

As per Table 3 Three way Anova Test is done as the statistical significance. Accordingly, there is difference in the Learning Outcome based on the Status of teacher (F value 23.746, P- value 0.000, P- value<5 per cent, Significant), Category (F value 19.326, P- value 0.000, P- value<5 per cent, Significant) and Interaction effect of Status of teacher with Category (F value 23.045, P- value 0.000, P- value<5 per cent, Significant).

While, no difference is seen on the Department (F value 0.142, p value 0.868,P value>5 per cent, Not Significant), Interaction effect of Status of teacher with Department (F value 1.24, P- value 0.291, P-value>5 per cent, Not Significant), Interaction effect of Category with Department (F value 1.3, P- value 0.274, P- value>5 per cent, Not Significant) and Interaction effect of Status of teacher with Category with Department (F value 0.062, P-value 0.94, P-value>5 per cent, Not Significant). Thus, the null hypothesis is failed to accept.

Findings

1. In the Aided High school, teachers from the Science faculty received a high mean score (3.5776±0.9508) for Learning Outcome, indicating a significant positive impact. Similarly, Social science and Language faculties also exhibited high mean scores, suggesting an overall effective teaching approach.
2. For the Government High school teachers, the Learning Outcome scores were consistently high across

Table 2

Descriptive analysis of learning out come with status of teacher, category and department.

Status of	Category of	Department	Mean	Std.	Effect
High school	Aided	Science	4.2676	0.52746	High
		Social science	4.2382	0.59941	High
		Language	4.2896	0.80856	High
		Total	4.2647	0.63933	High
	Govt	Science	3.5776	0.9508	High
		Social science	3.2021	0.94683	Moderate
		Language	3.2429	0.90806	Moderate
		Total	3.3399	0.94057	High
	Total	Science	3.817	0.88697	High
		Social science	3.5616	0.97317	High
		Language	3.5847	0.99997	High
		Total	3.6544	0.95507	High
Higher Secondary	Aided	Science	3.0846	0.85012	Moderate
		Social science	3.3115	0.90457	High
		Language	3.4827	0.95719	High
		Total	3.2905	0.90721	Moderate
	Govt	Science	3.3361	0.94133	High
		Social science	3.3361	0.94133	High
		Language	3.3287	0.93314	High
		Total	3.3336	0.93217	High
	Total	Science	3.2489	0.91293	Moderate
		Social science	3.3276	0.92268	High
		Language	3.38	0.93759	High
		Total	3.3188	0.9219	High
Total	Aided	Science	3.5523	0.93739	High
		Social science	3.6779	0.91329	High
		Language	3.7976	0.97658	High
		Total	3.674	0.94006	High
	Govt	Science	3.4315	0.94662	High
		Social science	3.2831	0.93989	Moderate
		Language	3.2946	0.91863	Moderate
		Total	3.3361	0.93358	High
	Total	Science	3.4734	0.94138	High
		Social science	3.42	0.94603	High
		Language	3.4609	0.96394	High
		Total	3.4514	0.94821	High

Source: Primary Data (Opinion Level :> 3.31 High, 2.92-3.31 Moderate, <2.92Low)

Table 3

Three way Anova Test -Tests of Between-Subjects Effects- Learning out come with status category and department.

Dependent Variable: Learning Outcome						
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Effect**
Corrected Model	43.113[a]	11	3.919	4.858	0.000	Significant
Intercept	4045.117	1	4045.117	5013.674	0.000	Significant
Status of teacher	19.159	1	19.159	23.746	0.000	Significant
Category	15.592	1	15.592	19.326	0.000	Significant
Department	0.229	2	0.114	0.142	0.868	Not Significant
Status of teacher * Category	18.593	1	18.593	23.045	0.000	Significant
Status of teacher * Department	2.001	2	1	1.24	0.291	Not Significant
Category * Department	2.097	2	1.049	1.3	0.274	Not Significant
Status of teacher * Category * Department	0.099	2	0.05	0.062	0.94	Not Significant

Source: Primary Data

Science, Social science, and Language faculties. The Science faculty, although slightly lower, still received a moderate score (3.5776±0.9508), affirming the positive impact of teaching methods on student learning.

3. At the Aided Higher Secondary level, Science faculty teachers received a moderate Learning Outcome score (3.0846±0.85012), indicating a decent impact. However, Social science and Language faculties demonstrated high effectiveness with mean scores of 3.3115±0.90457 and 3.4827±0.95719, respectively, suggesting more favourable outcomes in these subjects.

Suggestions

1. Launch the "Science Innovations Workshop Series" featuring monthly hands-on sessions throughout the academic year, dedicated to pioneering teaching methodologies for Science faculty educators.
2. Foster collaboration and idea exchange with the "Faculty Fusion Forums," hosting bimonthly cross-faculty meetings and knowledge-sharing sessions.
3. Introduce the "Mentorship Mastery Initiative," a year-long program matching seasoned mentors with Aided Stream High School Science faculty members to enhance instructional techniques and classroom management.

4. Present the "Curriculum Catalyst Workshops" quarterly for Social Science and Language faculty, spotlighting interactive teaching methods aligned with curriculum standards.
5. Establish the "Feedback Forte Framework," ensuring continuous improvement through structured peer evaluations and student feedback loops.
6. Roll out the "Resource Renaissance Initiative," annually allocating resources for teaching aids, technology tools, and supplementary materials across all faculties.
7. Elevate pedagogy with the "Evidence-Enriched Education Empowerment" program, promoting access to educational research and evidence-based practices integration.
8. Implement the "Pedagogical Progress Proctor," a systematic assessment and review process featuring regular evaluations and feedback loops for dynamic teaching method optimization.

Conclusion

The evaluation of Learning Outcomes among high school and higher secondary school teachers revealed nuanced patterns across different faculties and streams. The findings underscore the significance of tailored professional development initiatives and collaborative efforts among educators to enhance teaching effectiveness. The emphasis on mentorship, subject-specific workshops, and a structured feedback mechanism can contribute to sustained improvements in Learning Outcomes. Additionally, the allocation of resources and the integration of research informed practices play pivotal roles in creating enriched learning environments. As education evolves, a systematic approach to assessment and continuous review becomes essential to ensure adaptive teaching strategies that align with the dynamic needs of students and educational goals. This comprehensive set of recommendations aims to address specific challenges identified in the evaluation, fostering a culture of ongoing improvement in the teaching-learning process.

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