

CHAPTER-4
ANALYSIS AND INTERPRETATION
OF DATA

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4.1 Introduction

This chapter presents a comprehensive statistical analysis and interpretation of data collected from 50 commerce teachers from five districts of Chhattisgarh — Khairagarh-Chhuikhadan-Gandai, Rajnandgaon, Kawardha, Durg, and Raipur to understand their attitudes towards the Swami Atmanand Government English Medium School (SAGES) initiative.

The analysis uses both descriptive and inferential statistical techniques to explore the data comprehensively. It examines the demographic profile of respondents, overall attitudes, domain-wise perceptions, and the and comparative evaluations across gender and district. This chapter also presents a qualitative summary of open-ended responses to supplement quantitative findings.

Objective 1: To assess the attitude of commerce teachers towards the Swami Atmanand Government English Medium School (SAGES) initiative of Chhattisgarh

4.2 Demographic Profile of Respondents

Understanding the demographic characteristics of respondents is crucial for contextualizing the attitude data.

4.2.1 Gender Distribution

Based on the gender distribution data, the sample consisted of 50 respondents divided into male and female categories.

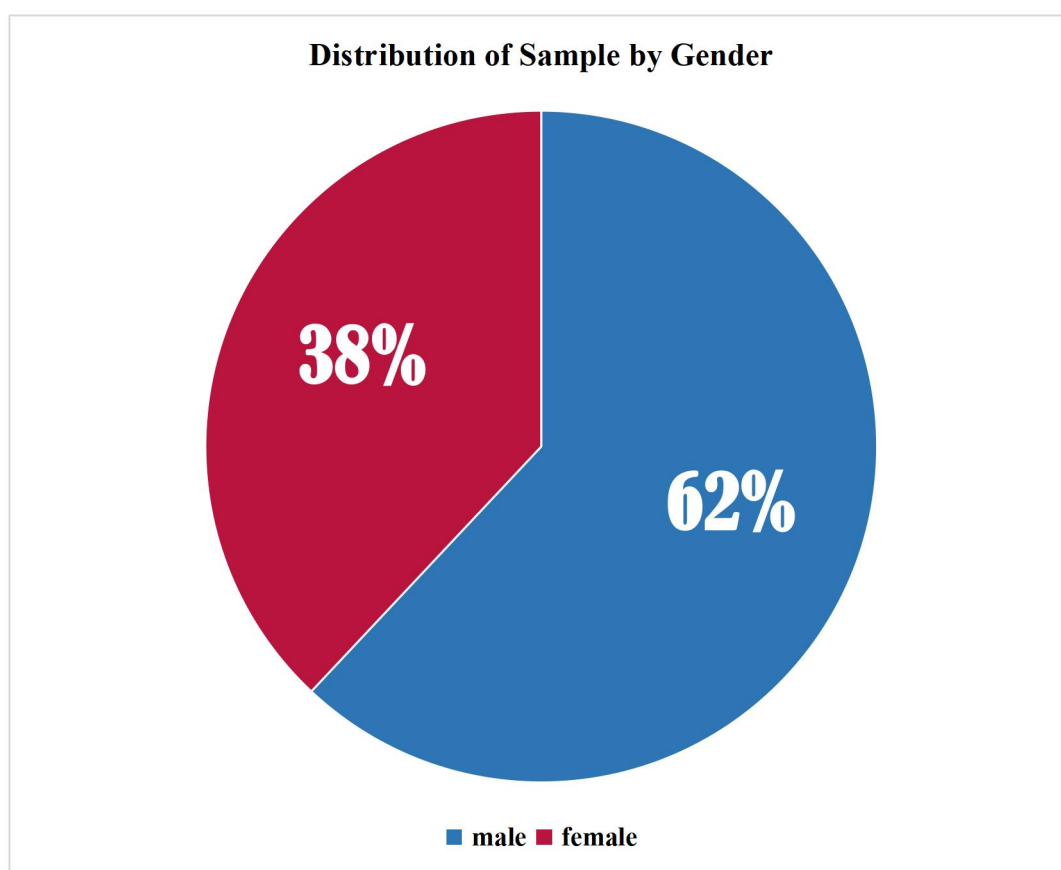
Table-4.1: Distribution of Sample by Gender

Gender	Frequency	Percentage
Male	31	62%
Female	19	38%
Total	50	100%

Interpretation:

The sample reflects a higher proportion of male commerce teachers, which is consistent with regional gender trends in the teaching profession in Chhattisgarh.

Graph 4.1: Pie Chart showing gender distribution, clearly illustrating that males constitute more than the female.



4.2.2 District-wise Distribution

The respondents represent five districts, with a balanced distribution to reflect regional variations:

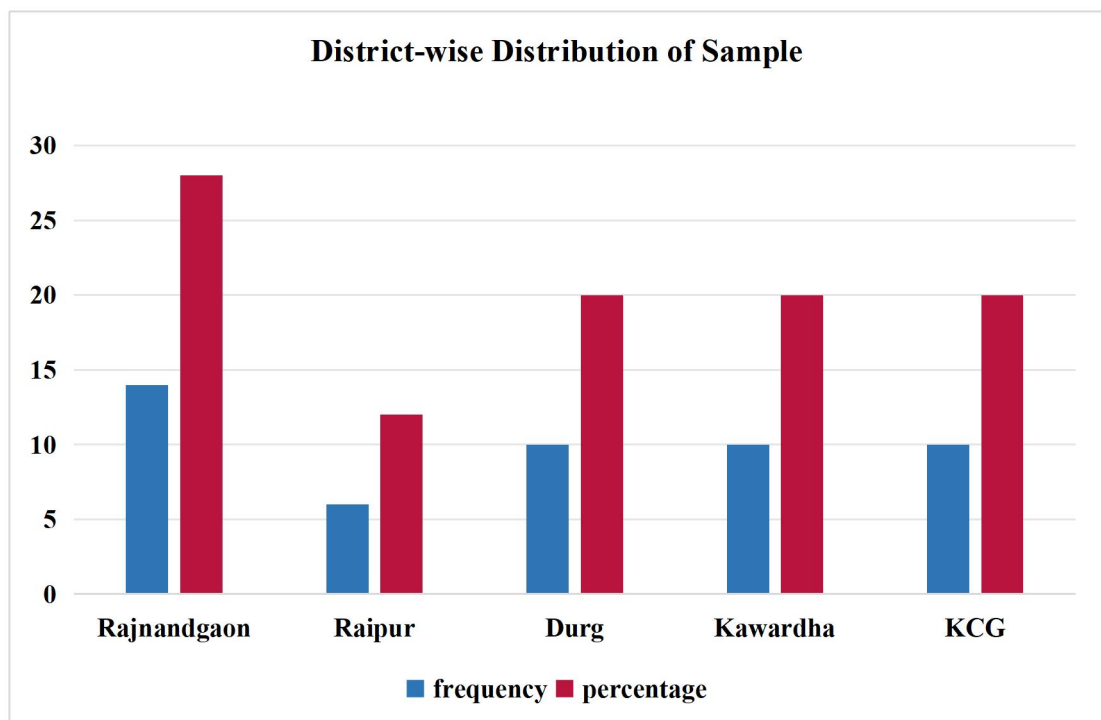
Table-4.2: Geographical Distribution of Respondents by District

District	Frequency	Percentage
Khairagarh-Chhuikhadan-Gandai	10	20%
Rajnandgaon	14	28%
Kawardha	10	20%
Durg	10	20%
Raipur	6	12%
Total	50	100%

Interpretation:

Rajnandgaon had the highest number of respondents (28%), followed by a balanced representation from Durg, Kawardha, Khairagarh-Chhuikhadan-Gandai (each 20%). Raipur had the smallest number of respondents (12%), allowing the analysis to capture diverse perspectives from both urban and semi-urban contexts.

Graph 4.2: Bar chart representing the number of respondents from each district.



4.3 Descriptive Analysis of Likert Scale Items

The 25 Likert-scale items were grouped under five major categories. The responses were analyzed using mean scores to indicate the level of agreement.

4.3.1 Overall Attitude Score

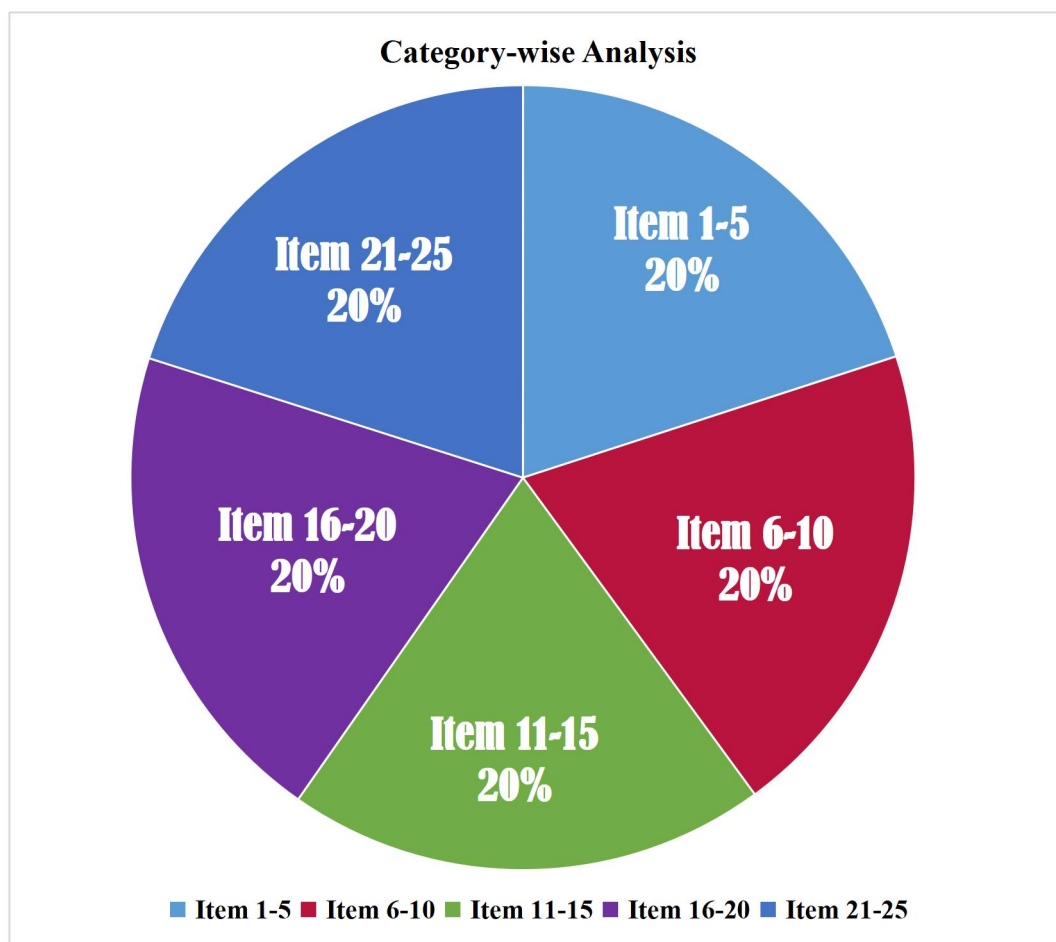
Table-4.3: Overall Attitude Score Analysis of Responses towards SAGES Initiative

Category	Item No	Mean Score	Standard deviation
Infrastructure & Resources	1-5	4.09	0.71
Teaching-Learning Process	6-10	4.08	0.73
Student Performance	11-15	4.04	0.71
Professional Experience	16-20	4.13	0.69
Overall Attitude toward SAGES	21-25	4.10	0.72

Intepretaion:

- All domain scores are above 4.0, suggesting strong agreement or positive attitudes.
- Items 16–20 had the highest mean, indicating respondents felt most strongly about the content in that domain.
- The low standard deviations reflect consistency across participant responses.

Graph 4.3: Pie Chart showing category-wise analysis.



4.3.2 Detailed Analysis by Category

A. Infrastructure and Resources (Items 1–5)

Table-4.4: Item-wise Analysis on Infrastructure and Resources

Item No.	Statement	Mean Score	Standard Deviation
1	SAGES schools have better infrastructure than other govt. schools	4.12	0.69
2	Classrooms are well-equipped with smart boards and ICT tools	4.08	0.72

3	Library resources are adequate	4.14	0.70
4	Computer labs are functional and accessible	3.98	0.68
5	Classrooms are clean and well-maintained	4.12	0.77

Interpretation:

Commerce teachers appreciated the facilities offered by SAGES schools. Respondents expressed a positive perception of SAGES schools' infrastructure. Highest approval was for library resources (Mean = 4.14), while computer labs scored slightly lower (Mean = 3.98), indicating room for improvement. Cleanliness and classroom equipment also received favorable ratings. Overall, responses were consistent, reflecting general satisfaction with school facilities.

B. Teaching-Learning Process (Items 6–10)

Table-4.5: Item-wise Analysis of Teaching and Learning Parameters in SAGES

Item No.	Statement	Mean Score	Standard Deviation
6	Teaching through English medium improves student understanding	4.12	0.80
7	Availability of e-learning content supports teaching	4.08	0.72
8	Timetable and curriculum are well-structured	4.28	0.70
9	Students respond better in English medium classrooms	3.94	0.71
10	ICT training for teachers is adequate	3.96	0.67

Interpretation:

This set reflects perceptions of academic delivery and curriculum in SAGES schools. The highest-rated item was the structured timetable and curriculum (Mean = 4.28), showing strong approval. Teaching in English and e-learning support were also rated positively. However, student response in English medium classrooms (Mean = 3.94) and adequacy of ICT training for teachers (Mean = 3.96) scored

slightly lower, suggesting these areas may need enhancement. Overall, feedback is favorable with moderate consistency in responses.

C. Student Performance & Behavior (Items 11–15)

Table-4.6: Item-wise Analysis of Perceived Student Development in SAGES

Item No.	Statement	Mean Score	Standard Deviation
11	Students are more disciplined	3.92	0.66
12	English medium enhances communication skills	4.16	0.71
13	Academic performance has improved	4.14	0.73
14	Students participate actively in class	4.06	0.71
15	Students show more interest in practical subjects	3.92	0.72

Interpretation:

Teachers generally view SAGES schools as fostering improved student outcomes. Highest ratings were for enhanced communication skills (Mean = 4.16) and academic performance (Mean = 4.14), indicating strong perceived benefits of the English medium. Active participation (Mean = 4.06) also received positive feedback. However, student discipline and interest in practical subjects (both Mean = 3.92) were rated slightly lower, suggesting areas for further support. Overall, attitudes reflect confidence in the academic and behavioral development of students.

D. Overall Attitude toward SAGES (Items 21–25)

Table-4.7: Teachers' Support and Satisfaction toward the SAGES Initiative

Item No.	Statement	Mean Score	Standard Deviation
21	I support the SAGES initiative	4.18	0.77

22	I would recommend SAGES to other districts	4.14	0.70
23	The initiative has improved teacher-student relationships	3.86	0.67
24	SAGES encourages innovation in teaching	4.16	0.76
25	I feel satisfied working in a SAGES school	4.18	0.66

Interpretation:

The responses reflect strong overall support for the SAGES initiative. Teachers showed high agreement with supporting and recommending the program (Means = 4.18 and 4.14). Innovation in teaching (4.16) and job satisfaction (4.18) were also rated positively. The lowest score was for improved teacher-student relationships (Mean = 3.86), indicating a potential area for enhancement. Overall, the data shows a positive attitude toward the initiative and its impact on teaching experience.

4.4 Gender-Wise Attitude Comparison (t-Test)

To evaluate if male and female teachers differ significantly in their attitudes, an independent sample t-test was conducted for each district.

Table-4.8: t-Test Analysis of Teacher Attitudes and Experience in SAGES Schools

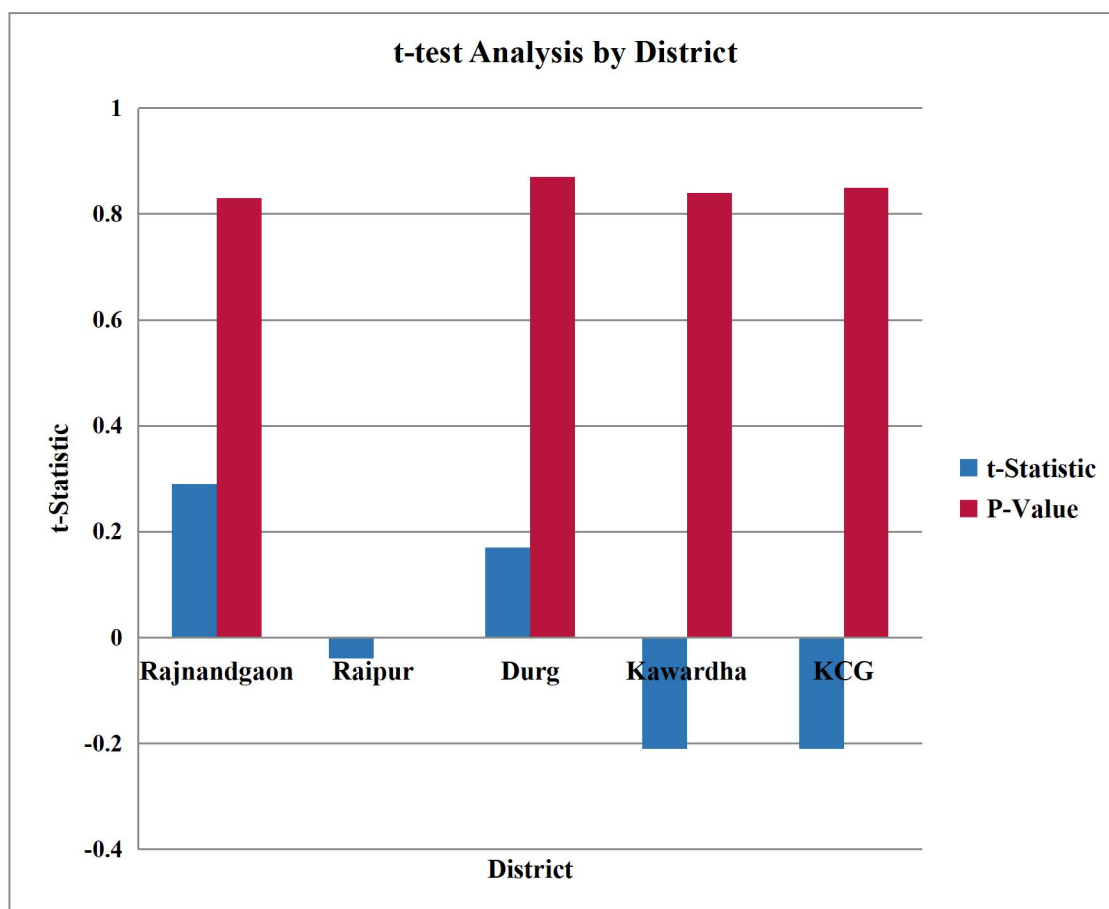
District	t-Statistic	Degree of Freedom	P-Value	Significance
Rajnandgaon	0.29	10.86	0.83	Not Significant
Raipur	-0.04	0	—	Cannot Determine
Durg	0.17	6.68	0.87	Not

				Significant
Kawardha	-0.21	6.99	0.84	Not Significant
Khairagarh-Chhuikhadan-Gandai	-0.21	1.56	0.85	Not Significant

Interpretation:

- No significant differences found in Rajnandgaon, Durg, Kawardha, and Khairagarh-Chhuikhadan-Gandai ($p > 0.05$).
- Raipur's result is inconclusive due to zero degrees of freedom.
- Overall, no meaningful statistical effect detected in these districts..

Graph 4.4: This Graph is showing District-wise t-Statistic Analysis.



4.5 District-Wise Attitude Level Analysis

Table-4.9: Comparative Analysis of Teacher Attitudes toward SAGES Across Districts

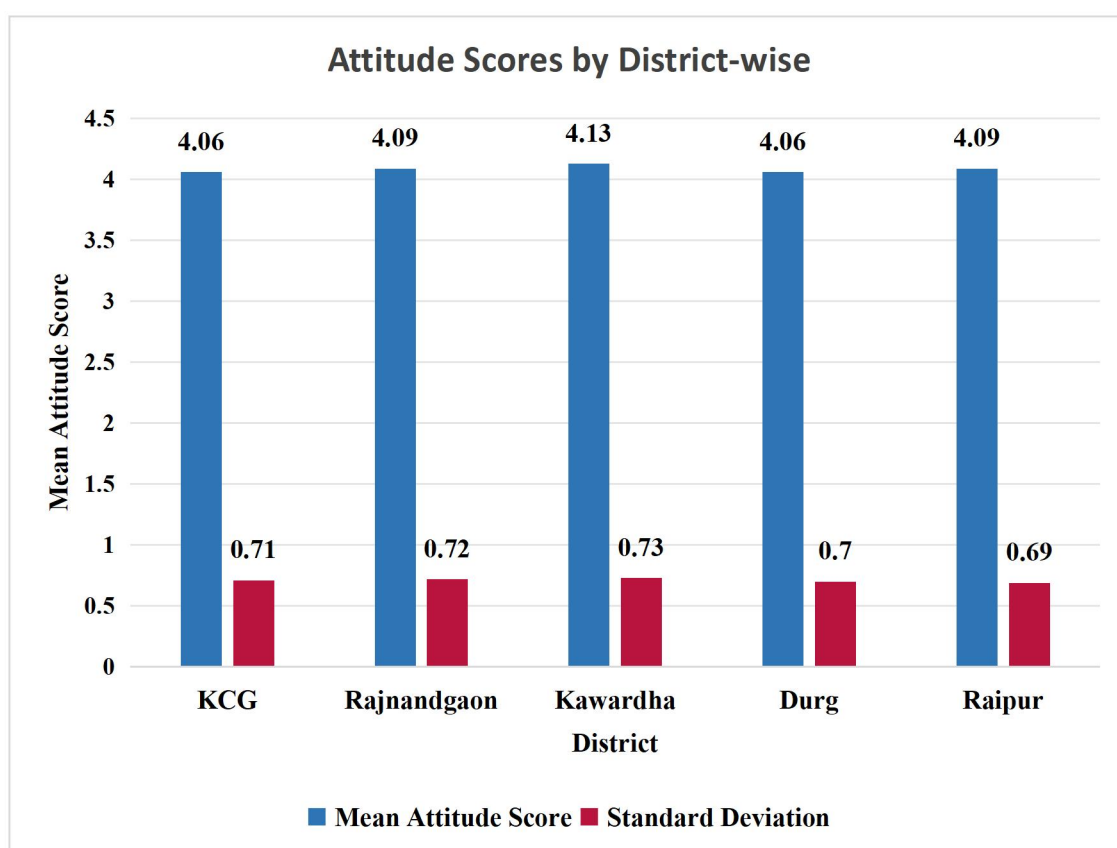
District	Number of Teachers	Mean Attitude Score	Standard Deviation	Interpretation
Khairagarh-Chhuikhadan-Gandai	10	4.06	0.71	Moderate positive attitude, consistent responses
Rajnandgaon	14	4.09	0.72	Slightly higher mean, low variability
Kawardha	10	4.13	0.73	Highest mean, suggesting most positive attitude
Durg	10	4.06	0.70	Similar to Khairagarh, stable responses
Raipur	6	4.09	0.69	Mean matches Rajnandgaon, slightly less variation
Overall	50	4.086	0.663	Overall positive attitude with relatively low spread

Interpretation of Results:

- Kawardha recorded the highest mean score (4.13), reflecting the most positive teacher attitude toward the initiative.
- Rajnandgaon and Raipur followed closely (Mean: 4.09), indicating a similarly strong and favorable perception.

- Khairagarh-Chhuikhadan-Gandai and Durg had slightly lower means (4.06), but still reflected overall positive attitudes.
- Standard deviations across all districts were low to moderate (around 0.70), suggesting consistency in teacher responses within each district.
- Raipur had the smallest sample size (6 teachers), so its results should be interpreted with caution.

Graph 4.5: Bar Graph Representing Mean Attitude Scores of Teachers by District with Standard Deviation.



Objective 2: To evaluate the perceived impact of the SAGES initiative on the teaching practices and professional experiences of commerce teachers.

4.6 Professional Experience (Items 16–20)

Table-4.10: Ratings of Teacher Perspectives on SAGES Initiative Work Conditions

Item No.	Statement	Mean Score	Standard Deviation
16	I feel more professionally respected in SAGES schools	4.06	0.68
17	English medium teaching is manageable	4.02	0.65
18	I am confident using digital tools	4.18	0.75
19	Workload has increased after joining SAGES	4.2	0.67
20	Professional development workshops are held regularly	4.2	0.70

Interpretation:

Responses indicate a positive professional experience for teachers in SAGES schools. High mean scores for increased workload and regular professional development (both 4.20) suggest active engagement and institutional support. Confidence in digital tool usage (4.18) and feelings of professional respect (4.06) are also strong. Managing English medium instruction scored slightly lower (4.02), though still favorable. Overall, teachers report a supportive and growth-oriented work environment.

4.7 Open-Ended Question Themes

4.7.1 Positive Themes

- Teachers praised the modern classrooms and availability of smart boards and digital content.
- English medium instruction is seen as vital for enhancing students' future opportunities.
- Improved infrastructure has increased teachers' motivation and professional satisfaction.

4.7.2 Challenges Identified

- Insufficient training in English-medium teaching methods and commerce subject matter.
- Many students struggle with English proficiency, making teaching difficult.
- Fewer professional development opportunities.

Interpretation:

Commerce teachers have acknowledged both benefits and challenges of the SAGES initiative. They believe it has significantly enhanced education quality but stress on sustainability through ongoing support and resources.