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Research Article

Developing an Effective Class Observation Schedule for Content and Language Integrated Learning (CLIL)

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ABSTRACT

This study investigates the robustness of Class observation Schedule for Content and Language Integrated Learning (CLIL) strategies in English language classrooms among CBSE-affiliated government and private/public schools in the National Capital Region (NCR) of India. A structured Class Observation Schedule was developed and validated to systematically assess the effectiveness of teaching practices in enhancing students' Listening, Speaking, Reading, and Writing (LSRW) skills. Data were collected from a sample of 383 Class VIII students using a five-point Likert scale. Reliability and validity of the instrument were rigorously tested through internal consistency measures, composite reliability, and construct validity assessments.

Keywords: Content and Language Integrated Learning (CLIL), English Language Teaching, Classroom Observation, LSRW Skills, CBSE Schools, Teaching Methodologies, Educational Research, NCR India.

Introduction

In today's increasingly interconnected world, English language proficiency is a critical skill for academic and professional success. Recognizing this, educational institutions are increasingly adopting innovative teaching methods that integrate language learning with subject content, among which Content and Language Integrated Learning (CLIL) has gained significant traction. CLIL promotes the dual-focused learning of subject matter and language, aiming to enhance both cognitive and linguistic competencies simultaneously. In the Indian context, especially in CBSE-affiliated schools within the National Capital Region (NCR), the need to align English language instruction with global best practices has become particularly relevant. This study aims to systematically evaluate the classroom practices adopted for teaching English under the CLIL approach. A specially designed Class Observation Schedule was created to assess how teachers implement strategies for developing Listening, Speaking, Reading, and Writing (LSRW) skills among Class VIII students. By analyzing practices across both government and private/public schools, the research also seeks to check the robustness of Class observation Schedule for Content and Language Integrated Learning (CLIL) strategies in English language classrooms among CBSE-affiliated government and private/public schools in the National Capital Region (NCR) of India.

Literature Review

The theoretical framework for this research is rooted in the principles of Content and Language Integrated Learning (CLIL), an educational approach that integrates language instruction with content teaching. Coyle, Hood, and Marsh (2010) assert that CLIL provides authentic contexts for language use, making learning more meaningful and effective. Unlike traditional language classes that often isolate grammar and vocabulary instruction, CLIL emphasizes practical language application within subject content areas, fostering deeper engagement and cognitive development.

Furthermore, the acquisition of LSRW skills is foundational in mastering a new language. Richards (2006) notes that successful language learning is predicated on the development of these four skills in a balanced

manner. Listening and speaking typically lay the groundwork for reading and writing, highlighting the need for integrated classroom activities that promote all dimensions of language use.

To ensure the robustness of any observational study, the reliability and validity of the measurement tools are paramount. Wragg (1999) emphasizes that observational instruments must be carefully validated to avoid bias and ensure meaningful data collection. The current study incorporates reliability assessments, such as Cronbach's alpha for internal consistency and composite reliability, ensuring that the observation schedule measures classroom practices consistently over time.

Construct validity, including convergent and discriminant validity, was crucial in establishing that the instrument accurately captures the intended constructs (Creswell, 2014). Moreover, content validity was assessed using Lawshe's (1975) Content Validity Ratio (CVR) method, ensuring that expert opinions guided the selection of relevant items. Overall, previous literature underscores the importance of systematic, validated observations for understanding teaching practices and provides a strong foundation for this study's methodology.

Research Methodology

This study adopts a quantitative observational research design to evaluate English language teaching strategies within the CLIL framework. The primary tool used for data collection was a structured Class Observation Schedule specifically developed for this purpose **(Appendix).** It was divided into five major sections: Demographic Details, Listening Skills, Speaking Skills, Reading Skills, and Writing Skills. Each skill area consisted of specific, behaviorally anchored statements evaluated on a five-point Likert scale ranging from 'Strongly Disagree' to 'Strongly Agree.'

Sampling and Participants:

A stratified random sampling method was adopted to select the study participants. The sample consisted initially of 400 students — 150 from 15 government schools and 250 from 25 private/public CBSE-affiliated schools within NCR. Post data cleaning, the final sample size was reduced to 383 students. The selection was designed to ensure a balance between types of schools and demographic diversity.

Data Collection Process:

Observations were conducted during regular classroom sessions without disrupting the natural flow of teaching. Confidentiality and ethical considerations were strictly maintained throughout the data collection process.

Reliability and Validity Testing:

The reliability of the instrument was assessed through several methods:
- **Indicator Reliability** was tested by calculating the square of outer loadings, ensuring that each item adequately measured the intended construct.
- **Internal Consistency** Reliability was evaluated using Cronbach's alpha and composite reliability scores, with values above 0.70 indicating acceptable consistency.
- **Construct Validity** included both Convergent Validity (outer loadings > 0.70, Average Variance Extracted > 0.50) and Discriminant Validity (using Fornell-Larcker criterion).
- **Content Validity** was confirmed using the Content Validity Ratio (CVR) method proposed by Lawshe (1975) is a linear transformation of a proportional level of agreement on how many "experts" within a panel rate an item "essential" calculated in the following way:

$$\mathrm{CVR} = \frac{n_e - \left(\frac{N}{2}\right)}{\frac{N}{2}}$$

where CVR is the content validity ratio, ne is the number of panel members indicating "essential," and N is the total number of panel members. The final evaluation to retain the item based on the CVR is depends on the number of panels.
Table blow shows the guideline for the valid value of CVR for the evaluated item to be retained

TABLE 1 : MINIMUM VALUE OF CVR, P = .05, SOURCE: (LAWSHE, 1975)

No. of Panellists	Minimum Value
5	.99
6	.99
7	.99
8	.75
9	.78
10	.62
11	.59
12	.56
13	.54
14	.51
15	.49
20	.42
25	.37
30	.33
35	.31
40	.29

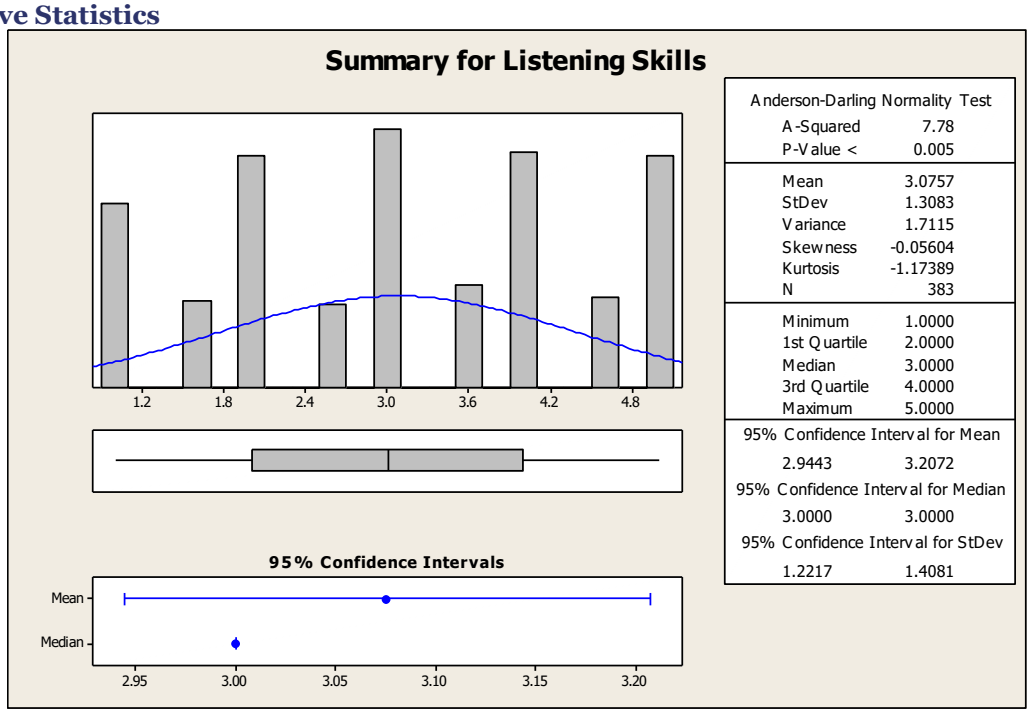
Data Analysis:

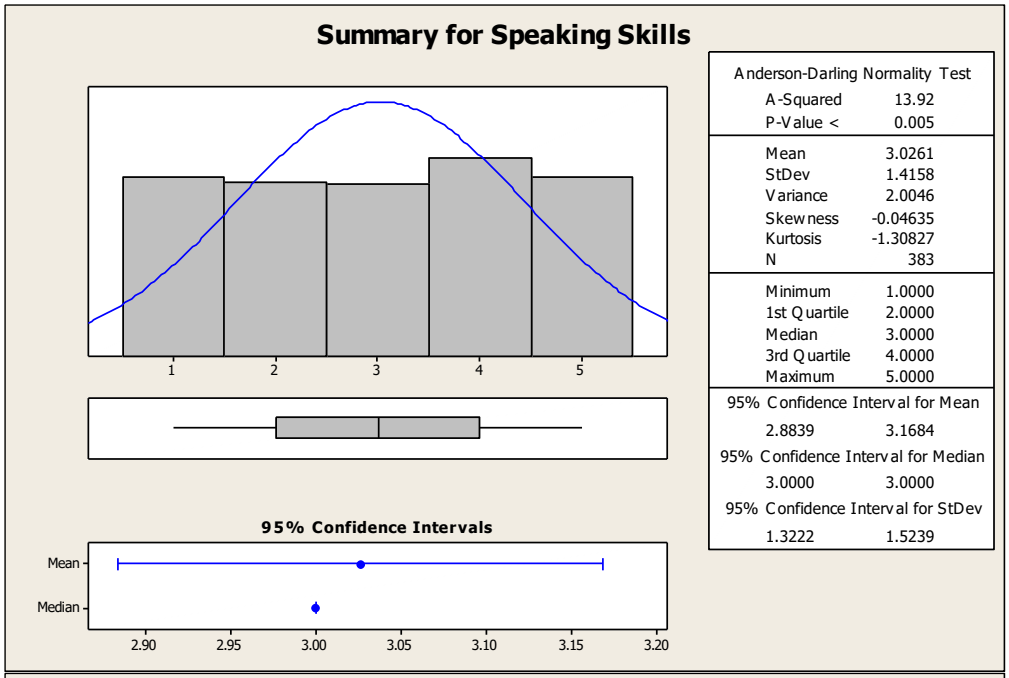
Quantitative analysis was performed using descriptive and inferential statistics. Means and standard deviations were calculated for each observation item. The reliability and validity assessments ensured that findings could be interpreted with confidence, contributing to the broader understanding of CLIL-based English language instruction.

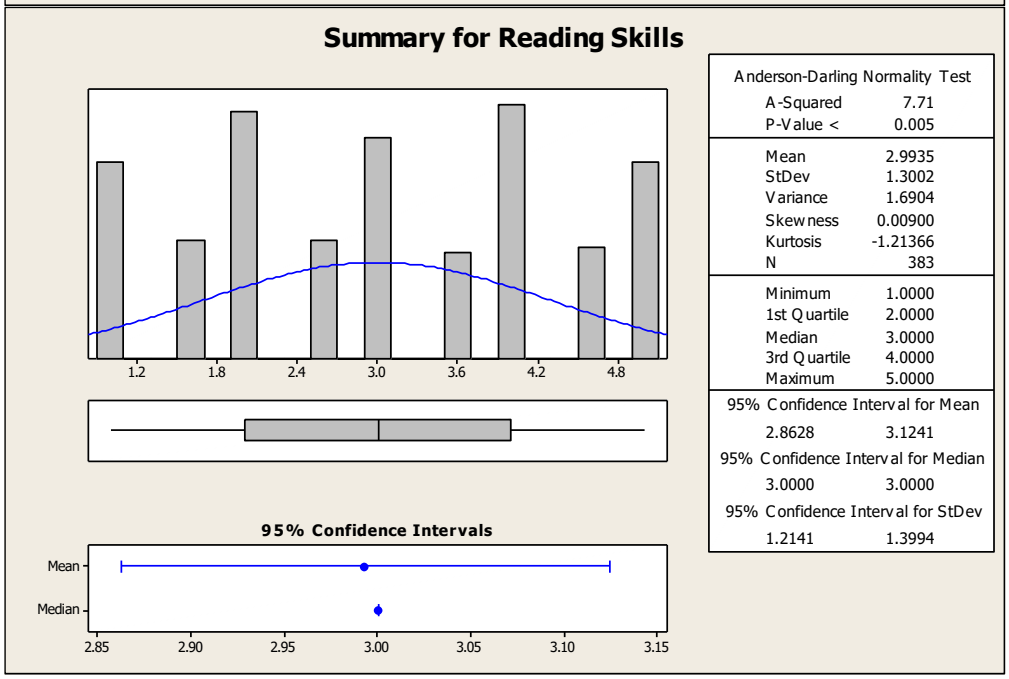
Distribution of Student Sample from Government and Private/Public Schools (Post Data Cleaning)"

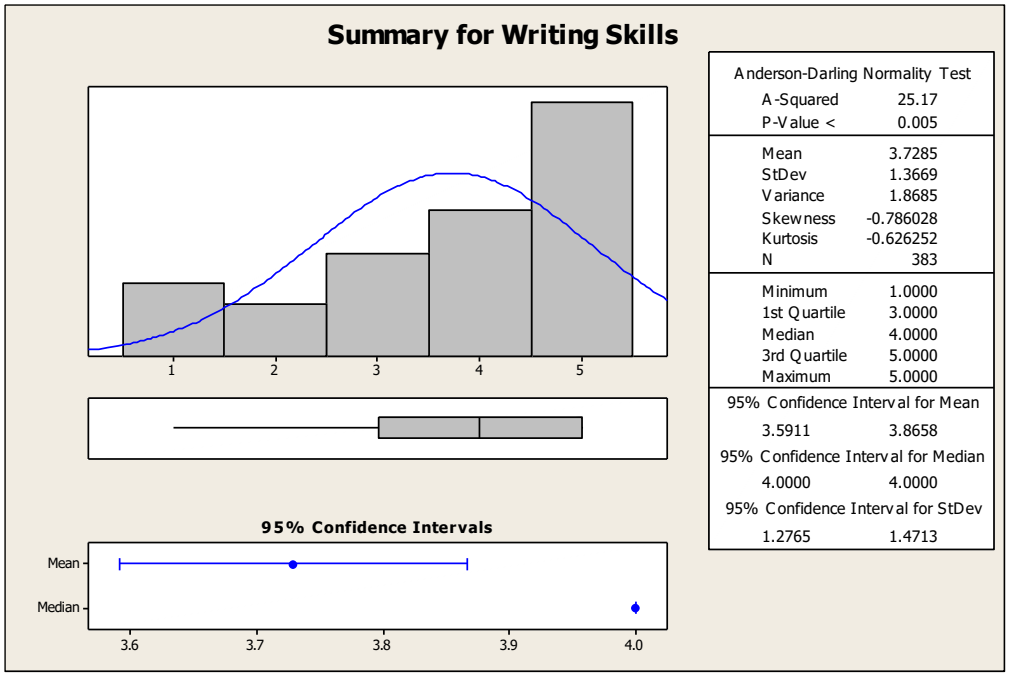
S.No	Item	Government Schools	Private/Public Schools	Total	Sample size after data cleaning
1	Number of Schools	15	25	40	(Krejyce ad Morgan Formula)
2	Affiliation	CBSE	CBSE	-	
3	Class Level	Class VIII	Class VIII	-	
4	Students per School	10	10	-	
5	Total Students	15 × 10 = 150	25 × 10 = 250	400	383

Descriptive Statistics




Summary for Speaking Skills
Anderson-Darling Normality Test
A-Squared 13.92
P-Value < 0.005
Mean 3.0261
StDev 1.4158
Variance 2.0046
Skewness -0.04635
Kurtosis -1.30827
N 383
Minimum 1.0000
1st Quartile 2.0000
Median 3.0000
3rd Quartile 4.0000
Maximum 5.0000
95% Confidence Interval for Mean
2.8839 3.1684
95% Confidence Interval for Median
3.0000 3.0000
95% Confidence Interval for StDev
1.3222 1.5239
1 2 3 4 5
95% Confidence Intervals
Mean
Median
2.90 2.95 3.00 3.05 3.10 3.15 3.20


Summary for Reading Skills
Anderson-Darling Normality Test
A-Squared 7.71
P-Value < 0.005
Mean 2.9935
StDev 1.3002
Variance 1.6904
Skewness 0.00900
Kurtosis -1.21366
N 383
Minimum 1.0000
1st Quartile 2.0000
Median 3.0000
3rd Quartile 4.0000
Maximum 5.0000
95% Confidence Interval for Mean
2.8628 3.1241
95% Confidence Interval for Median
3.0000 3.0000
95% Confidence Interval for StDev
1.2141 1.3994
1.2 1.8 2.4 3.0 3.6 4.2 4.8
95% Confidence Intervals
Mean
Median
2.85 2.90 2.95 3.00 3.05 3.10 3.15



Reliability and Validity Calculation Sheet

Indicator	Loadings (λ)	Loading Sq (λ Sq)	Lower Order Construct	AVE (Average of Loading Sq) $AVE=\frac{\sum \lambda^2}{n}$	SqrtAVE	1-λ Sq	Σ(1-λ Sq)	Σλ	(Σλ) Sq	Composite Reliabilitiy CR-Rho a $CR=\frac{(\sum\lambda)^2}{\left[(\sum\lambda)^2+\sum(1-\lambda^2)\right]}$
L1	0.772	0.595984				0.404016				
L2	0.81	0.6561				0.3439				
L3	0.863	0.744769				0.255231				
L4	0.904	0.817216				0.182784				
L5	0.903	0.815409				0.184591				
L6	0.892	0.795664				0.204336				
L7	0.864	0.746496				0.253504				
L8	0.81	0.6561	Listening	0.72846725	0.853502929	0.3439	2.172262	6.818	13.636	0.862586918
S1	0.846	0.715716				0.284284				
S2	0.924	0.853776				0.146224				
S3	0.95	0.9025				0.0975				
S4	0.928	0.861184				0.138816				
S5	0.867	0.751689	Speaking	0.816973	0.903865587	0.248311	0.915135	4.515	9.03	0.907981641
R1	0.76	0.5776				0.4224				
R2	0.832	0.692224				0.307776				
R3	0.883	0.779689				0.220311				
R4	0.89	0.7921				0.2079				
R5	0.899	0.808201				0.191799				
R6	0.858	0.736164				0.263836				
R7	0.802	0.643204				0.356796				
R8	0.736	0.541696	Reading	0.69635975	0.834481725	0.458304	2.429122	6.66	13.32	0.845761434
W1	0.751	0.564001				0.435999				
W2	0.853	0.727609				0.272391				
W3	0.89	0.7921				0.2079				
W4	0.897	0.804609				0.195391				
W5	0.887	0.786769				0.213231				
W6	0.833	0.693889				0.306111				
W7	0.77	0.5929	Writting	0.708839571	0.841926108	0.4071	2.038123	5.881	11.762	0.852311244

1. Validity

1.1 Content Validity: Observation Schedule was sent to 14 subject experts and each subject expert gave 1 mark to the question which according to them was important and no mark to those which was not important. For each question the total of ones were taken and CVR ratio was calculated.

Question	Judge 1	Judge 2	Judge 3	Judge 4	Judge 5	Judge 6	Judge 7	Judge 8	Judge 9	Judge 10	Judge 11	Judge 12	Judge 13	Judge 14	Total Count 1	Content Validity Ratio (CVR)
L1	1		1	1	1	1	1	1		1	1	1	1		11	0.571428571
L2	1	1	1	1	1		1	1	1	1	1	1	1	1	13	0.857142857
L3	1	1	1	1	1	1	1	1	1	1		1			11	0.571428571
L4	1	1	1			1	1		1	1	1	1	1	1	11	0.571428571
L5	1	1	1	1	1	1		1	1	1	1	1		1	12	0.714285714
L6	1	1	1	1	1	1	1	1	1			1	1		11	0.571428571
L7	1	1	1		1	1	1	1	1	1	1		1	1	12	0.714285714
L8	1			1	1	1			1	1	1	1			8	0.142857143
R1	1	1	1	1	1	1	1	1	1		1	1	1	1	13	0.857142857
R2	1	1	1		1	1	1	1	1		1	1	1	1	12	0.714285714
R3	1	1	1	1	1	1	1	1			1	1	1		11	0.571428571
R4	1	1	1	1	1		1	1	1	1	1	1	1	1	13	0.857142857
R5	1	1	1	1	1	1	1	1	1	1		1			11	0.571428571
R6	1	1	1			1	1		1	1	1	1	1	1	11	0.571428571
R7	1		1	1	1		1	1	1		1	1	1	1	11	0.571428571
R8	1	1	1	1		1		1	1	1	1	1	1	1	12	0.714285714
S1	1	1	1	1	1	1		1	1	1	1	1	1	1	13	0.857142857
S2		1		1	1	1	1	1	1		1	1	1	1	11	0.571428571
S3	1	1	1	1	1		1	1	1	1	1	1	1	1	13	0.857142857
S4	1	1	1	1	1	1		1	1	1	1	1		1	12	0.714285714
S5	1	1	1	1	1	1	1	1	1			1	1		11	0.571428571
W1	1	1	1	1	1	1	1	1			1	1	1		11	0.571428571
W2	1	1	1	1	1		1	1	1	1	1	1	1	1	13	0.857142857
W3	1	1	1	1	1	1	1	1	1	1		1			11	0.571428571
W4	1	1	1			1	1		1	1	1	1	1	1	11	0.571428571
W5	1		1	1	1		1	1	1		1	1	1	1	11	0.571428571
W6	1	1		1	1		1	1	1	1	1	1	1	1	12	0.714285714
W7	1	1		1		1	1	1	1	1	1	1		1	11	0.571428571

Since each CVR is greater than , the threshold limit for 14 Judges , Content Validity was established

1.1 Convergent Validity - Outer Loadings and Average Variance Extracted (AVE)

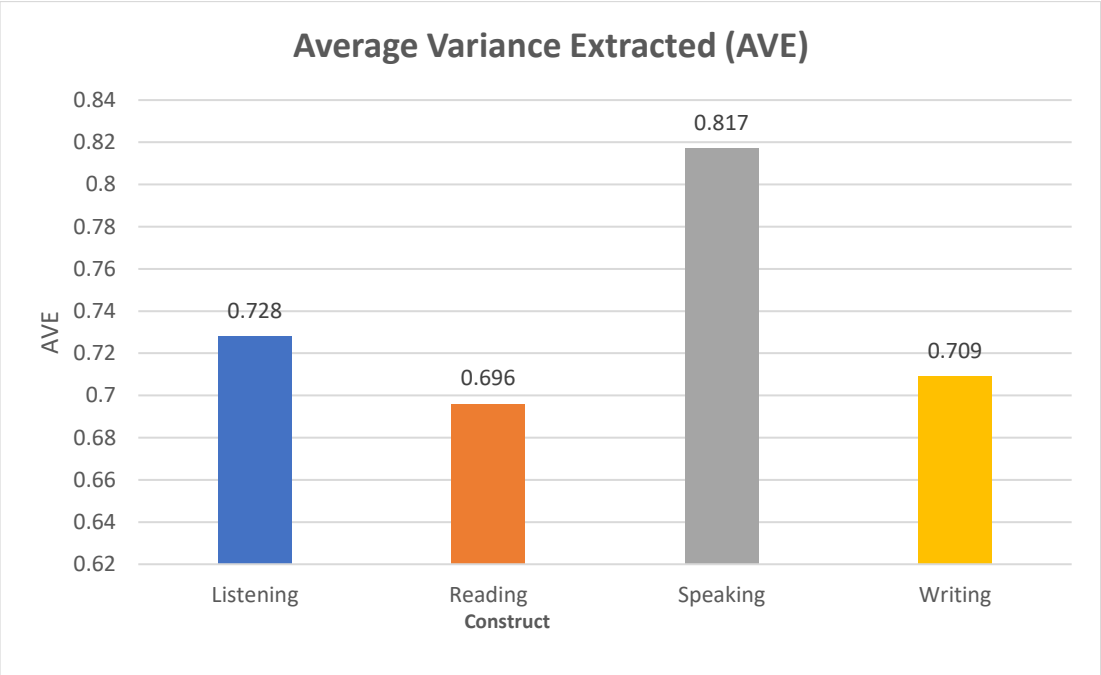
a) Outer Loadings

Indicators	Outer Loadings (O)
L1	0.772
L2	0.810
L3	0.863
L4	0.904
L5	0.903
L6	0.892
L7	0.864
L8	0.810
R1	0.760
R2	0.832
R3	0.883
R4	0.890
R5	0.899
R6	0.859
R7	0.802
R8	0.736
S1	0.846
S2	0.924
S3	0.950
S4	0.928
S5	0.867
W1	0.751
W2	0.853
W3	0.890
W4	0.897
W5	0.887
W6	0.833
W7	0.770

Outer loadings of all variables are greater than 0.70

b) Average Variance Extracted (AVE)

Construct	AVE
Listening	0.728
Reading	0.696
Speaking	0.817
Writing	0.709



All AVEs' are greater than 0.50
Thus, with a and b above Convergent Validity is established

1.2 Discriminant (Divergent) Validity - Fornell- Larcker Criterion

	Listening	Reading	Speaking	Writing
Listening	0.853			
Reading	0.021	0.834		
Speaking	0.377	0.003	0.903	
Writing	0.087	0.599	0.024	0.814

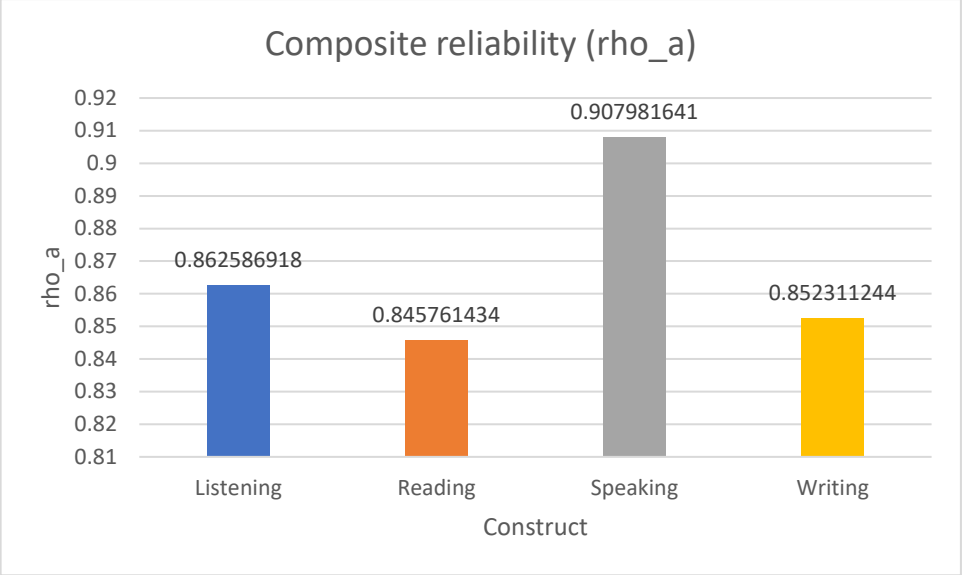
It can be seen that along the diagonal each value is largest in its row and in its column thus meeting the Forner Larcker Criterion for convergent validity

2. Reliability Analysis

2.1 Composite Reliability- Rho a

Construct	Composite reliability(rho_a)
Listening	0.862
Reading	0.845
Speaking	0.907
Writing	0.852

All values of rho a are greater than 0.70



Thus, composite reliability is established

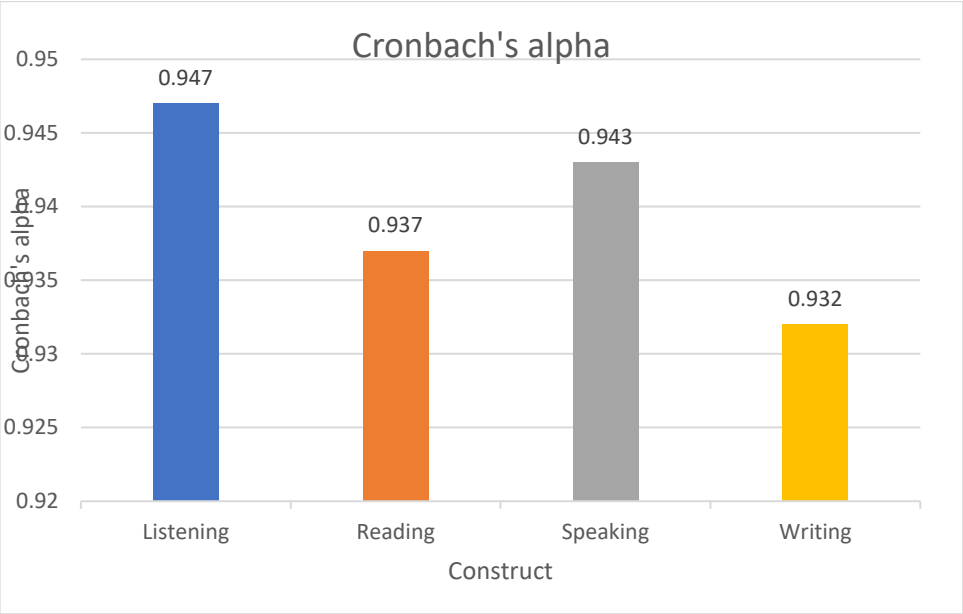
2.2 Indicator Reliability- Square of Outer Loadings

Indicator	Outer Loadings (O)	Outer Loadings Square
L1	0.772	0.595
L2	0.810	0.656
L3	0.863	0.745
L4	0.904	0.818
L5	0.903	0.816
L6	0.892	0.796
L7	0.864	0.746
L8	0.810	0.656
R1	0.760	0.577
R2	0.832	0.692
R3	0.883	0.780
R4	0.890	0.792
R5	0.899	0.807
R6	0.859	0.737
R7	0.802	0.643
R8	0.736	0.541
S1	0.846	0.716
S2	0.924	0.853
S3	0.950	0.903
S4	0.928	0.860
S5	0.867	0.751
W1	0.751	0.564
W2	0.853	0.728
W3	0.890	0.793
W4	0.897	0.804
W5	0.887	0.787
W6	0.833	0.694
W7	0.770	0.593

Squared values of all indicator loadings are greater than 0.50 confirming indicator reliability

2.3 Internal Consistency Reliability - Cronbach Alpha

Construct	Cronbach's alpha
Listening	0.947
Reading	0.937
Speaking	0.943
Writing	0.932



All Cronbach's Alpha are greater than 0.70 indicating Internal Consistency Reliability

Conclusion:

The present study offers a comprehensive evaluation of LSRW Skills for Content and Language Integrated Learning (CLIL) methodologies employed in English classrooms at the Class VIII level across government and private/public schools in NCR. By developing and validating a robust Class Observation Schedule, the research successfully captured nuanced classroom practices and their effectiveness in developing critical language skills among students.

The findings revealed that Class Observation Schedule for CLIL is reliable and valid for capturing significantly accurate data .The study underscores the importance of ongoing teacher training programs focused on CLIL methodologies, fostering a balanced development of Listening, Speaking, Reading, and Writing skills.

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APPENDIX

Class Observation Schedule for Content and Language Integrated Learning (CLIL)

Introduction: This observation schedule aims to evaluate classroom practices in developing Listening, Speaking, Reading, and Writing skills among students under the Content and Language Integrated Learning (CLIL) approach.

Observers are requested to assess each item carefully and provide their honest evaluation.
All information collected will be kept confidential and used only for academic and research purposes.

Section: A
Demographic Details

Name	
Age	
Gender	
School	
Area/Location	

Instructions:
Please rate the following statements according to your observation.
(Please ☑ the appropriate box)

1 – Strongly Disagree | 2 – Disagree | 3 – Neutral | 4 – Agree | 5 – Strongly Agree

Section B: Listening Skills

#	Statement	1	2	3	4	5
L1	The teacher introduces the topic or vocabulary related to the listening task to develop students' listening skills.					
L2	The teacher uses a variety of listening tasks (e.g., gap-fill, multiple choice, true/false) to develop students' listening skills.					
L3	The teacher uses Dictation to develop students' listening skills.					
L4	The teacher allows students to ask questions or seek clarification during or after listening.					
L5	Students are encouraged to listen for specific information or details by the teacher.					
L6	Students are given opportunities to discuss or share their understanding of the listening material.					
L7	Listening tasks are designed to assess different levels of understanding (e.g., identifying main ideas, details, specific information).					
L8	Feedback is provided to students on their listening performance.					

Section C: Speaking Skills

#	Statement	1	2	3	4	5
S1	The teacher uses a variety of accents and dialects to expose students to different speaking styles.					
S2	The teacher asks the students to answer the questions orally.					
S3	The teacher organizes debates, discussions, and narrations for students.					
S4	The teacher provides opportunities for students to express their own ideas and opinions.					
S5	The teacher offers constructive feedback and corrections on students' speaking.					

Section D: Reading Skills

#	Statement	1	2	3	4	5
R1	The teacher creates a supportive and inclusive atmosphere for speaking.					
R2	The teacher provides clear and appropriate language models for students to imitate.					
R3	The teacher uses a variety of reading activities, such as reading comprehension exercises, skimming, and scanning.					
R4	The teacher uses a variety of texts (e.g., fiction, non-fiction, newspapers, magazines).					
R5	The teacher corrects the student's pronunciation.					
R6	The teacher helps students read fluently with proper punctuation marks and intonation.					
R7	The teacher provides opportunities for independent reading.					
R8	The teacher creates a positive and supportive learning environment for reading.					

Section E: Writing Skills

#	Statement	1	2	3	4	5
W1	The teacher uses assessment techniques to monitor students' progress in listening and provide timely feedback.					
W2	The teacher promotes writing fluency through timed writing activities.					
W3	The teacher effectively addresses student errors in grammar, punctuation, and spelling.					
W4	The teacher integrates writing into various classroom activities, such as journaling, letter writing, and creative writing.					
W5	The teacher uses authentic writing tasks that reflect real-world scenarios through picture compositions, elaborations on key words, etc.					
W6	The teacher uses assessment techniques to monitor students' progress in writing and provide timely feedback.					
W7	The teacher creates a supportive and encouraging environment for writing.					

Final Note:

Thank you for your careful observations and for contributing to the improvement of teaching practices.