INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE
Published by: RISEJOURNALS.ORG | Online ISSN: 3028-032X | Print ISSN: 3028-0370
VOLUME 4, ISSUE NO. 8

Sustaining an Interdisciplinary Curriculum Innovation: A Secondary Mixed-Methods Evaluation of Implementation Experience, Collaborative Practice, and Logistical Conditions

DOI: 10.5281/zenodo.21677379

Rodjhun B. Navarro, LPT, PhD
Vice-President for Research, Innovations, and Linkages, La Consolacion College Bacolod
https://orcid.org/0000-0001-7889-5770 | rnavarro@lccbonline.edu.ph

Rejay Y. Alvarado, LPT, MPM
Head, Research and Creative Works Office, La Consolacion College Bacolod
https://orcid.org/0000-0003-2662-5749 | rejayalvarado@lccbonline.edu.ph

Mikhail Ivan A. Muchuelas
Research, Innovations, and Linkages Staff, La Consolacion College Bacolod
https://orcid.org/0009-0006-2959-4414 | mikhail.ivan.muchuelas@lccbonline.edu.ph

Ernie P. Mallorca, LPT
Subject Area Chairperson, Computer, TLE and HELE, IBED La Consolacion College Bacolod
https://orcid.org/0009-0008-9678-882X | erniemallorca@lccbonline.edu.ph

Kevin Jon B. Ciano, LPT
Subject Area Chairperson, Communication Arts English, IBED La Consolacion College Bacolod
https://orcid.org/0000-0002-8854-4103 | kevinjonciano@lccbonline.edu.ph

Abstract

This study conducted a secondary mixed-methods implementation evaluation of the Schematic Webbing Program in the Integrated School of La Consolacion College Bacolod. It examined implementation experience, collaborative practice, logistical conditions, program sustainability, and teacher-perceived outcomes using archived internal evaluation data collected in November 2025. The dataset included 33 teachers from Preschool, Elementary, and Secondary levels. Quantitative data from a 15-item instrument were analyzed using descriptive statistics, Cronbach's alpha, Mann–Whitney U tests, rank-biserial correlations, and Spearman rank-order correlations. Open-ended responses were examined through qualitative content analysis and integrated with the quantitative findings. Results showed that teachers generally perceived Program Planning and Integration, Implementation and Collaboration, and Perceived Outcomes and Impact as evident in practice. The three domains demonstrated high internal consistency, with Cronbach's alpha coefficients ranging from .925 to .967. No statistically significant differences were found according to grade-level assignment. Teachers with three years or more of participation reported more favorable evaluations than those with one to two years of experience, particularly for teacher-perceived outcomes and overall implementation after adjustment for multiple comparisons. Strong positive associations were also observed among planning, collaboration, and perceived outcomes. Qualitative findings identified interdisciplinary collaboration, unified learning activities, student engagement, creativity, and conceptual connection as program strengths. Limited preparation time, scheduling conflicts, and coordination demands emerged as the principal implementation constraints. The findings suggest that the program was positively received and had developed recurring collaborative and instructional practices associated with program sustainability. Continued implementation will require protected planning time, coordinated scheduling, induction and mentoring for newer participants, sustained professional development, and broader evidence of learner outcomes.

Keywords: interdisciplinary curriculum, schematic webbing, implementation evaluation, implementation experience, teacher collaboration, logistical conditions, secondary data analysis, mixed methods

Introduction

Contemporary curriculum reform increasingly emphasizes learners' capacity to connect knowledge, apply concepts across contexts, and respond to problems that do not fit neatly within conventional subject boundaries. This orientation reflects a broader shift from curricula organized primarily around content coverage toward curricula that also cultivate transferable competencies, including critical thinking, collaboration, communication, creativity, and responsible action. International curriculum analyses have consequently encouraged schools to provide opportunities for students to integrate disciplinary knowledge while preserving the conceptual rigor of individual learning areas (Organisation for Economic Co-operation and Development [OECD], 2020a, 2024). Integrated approaches are therefore often presented as a response to the fragmentation of school knowledge and the difficulty learners may experience in recognizing how concepts encountered in one subject relate to those studied in another. Nevertheless, translating this aspiration into routine school practice remains complex because curriculum coherence depends not only on design but also on teacher preparation, organizational structures, and sustained implementation support.

Integrated curriculum is an umbrella term rather than a single instructional model. It may refer to multidisciplinary arrangements in which subjects address a common theme while retaining their distinct perspectives, interdisciplinary arrangements in which concepts or skills are deliberately connected across learning areas, or more transdisciplinary approaches organized around authentic problems that extend beyond formal subject boundaries (Drake & Burns, 2004; Fogarty, 1991; Jacobs, 1989). The distinctions matter because not every thematic activity produces meaningful integration. A shared event, display, or project may appear interdisciplinary while leaving learning objectives disconnected or reducing subject content to superficial contributions. Critics have therefore cautioned that integration can weaken disciplinary progression when connections are imposed without conceptual justification, sufficient depth, or clear assessment criteria (McPhail, 2018; Pang & Marton, 2007). The challenge is not simply to combine subjects, but to construct relationships among them that deepen rather than dilute learning.

One established approach is the webbed curriculum model, in which a central theme, concept, issue, or problem provides an organizing structure for learning experiences across several subject areas (Fogarty, 1991). Teachers identify relevant curricular connections and represent them through a conceptual web that guides lesson planning, collaborative projects, and assessment. Webbing can make relationships among ideas more visible and may help learners encounter a concept from several disciplinary perspectives. It is particularly attractive in basic education because themes can be adjusted to learners' developmental levels and connected to concrete experiences. Studies of thematic and integrated instruction have reported potential benefits for engagement, comprehension, creativity, and knowledge transfer (Drake & Burns, 2004; Gresnigt et al., 2014; Puspita et al., 2020). These benefits, however, depend on the quality of the connections developed, the appropriateness of the learning tasks, and the extent to which teachers maintain alignment with required competencies.

The implementation of integrated learning is fundamentally a collective rather than merely individual undertaking. Subject-based schooling typically distributes curriculum expertise among teachers, departments, and grade levels; consequently, interdisciplinary work requires educators to negotiate shared themes, clarify each subject's contribution, coordinate timelines, and develop coherent outputs and assessment expectations. Collaborative practice in this context refers to more than informal exchanges of resources. It includes sustained and goal-directed activities such as co-planning, joint decision-making, analysis of student work, peer support, and collective reflection on instructional practice (Hargreaves & O'Connor, 2018; OECD, 2025). Recent international evidence continues to distinguish occasional cooperation from deeper forms of professional collaboration that allow teachers to learn from one another and assume shared responsibility for instructional improvement. Such collaboration may strengthen coherence and support less experienced teachers, but it requires organizational conditions that make substantive joint work possible.

Time is among the most persistent constraints on collaborative curriculum implementation. Teachers may be expected to coordinate interdisciplinary activities while continuing to meet regular teaching, assessment, documentation, and institutional responsibilities. Research involving integrated curriculum and integrated STEM initiatives has repeatedly identified inadequate common planning time, incompatible schedules, limited instructional time, and organizational fragmentation as barriers to implementation (Margot & Kettler, 2019; Park, 2008). In a study of primary teachers, planning time and compatible working hours with colleagues significantly influenced the frequency with which integrated curriculum was implemented. Similarly, teachers involved in integrated STEM

education reported difficulty finding common scheduling blocks for multidisciplinary planning and project implementation. These findings suggest that willingness to collaborate is insufficient when school structures do not provide protected time, coordinated schedules, and manageable implementation expectations.

The importance of logistical conditions complicates the tendency to treat curriculum innovation as a straightforward transfer of a designed program into classrooms. Curriculum reform commonly involves an implementation gap between the intended curriculum, the curriculum teachers enact, and the learning experiences students ultimately receive. The OECD has noted that reforms pass through planning, decision-making, preparation, implementation, and monitoring phases, with substantial delays frequently occurring because the time and support needed for schools and teachers are underestimated (OECD, 2020b). Implementation is therefore not a single event but an adaptive process in which teachers interpret goals, adjust materials, negotiate competing demands, and develop routines suited to their setting. Evaluations that focus only on whether activities occurred may overlook the organizational processes that determine whether an innovation becomes coherent, sustainable, and embedded in ordinary practice.

This concern draws attention to the sustainability of school-based curriculum innovations. In the present study, sustainability refers to the extent to which a recurring program is supported by recognizable objectives, collaborative routines, administrative support, available resources, and continuing participation among teachers. These features may indicate movement toward institutionalization, although institutionalization itself ordinarily involves a broader set of conditions, including formal policy integration, stable resource allocation, leadership continuity, monitoring mechanisms, and incorporation into regular curriculum and quality-assurance systems (Fitzpatrick et al., 2011; Fullan, 2015). A school-based program may therefore be positively received and repeatedly implemented without yet being fully embedded in institutional structures. The present evaluation examines selected implementation conditions associated with sustainability rather than claiming to provide a comprehensive measure of institutionalization.

Repeated participation may also influence how teachers experience a curriculum innovation. Teachers encountering an interdisciplinary framework for the first time may still be learning its terminology, procedures, expected outputs, assessment arrangements, and collaborative norms. Continued involvement may allow them to develop greater familiarity with the program, establish working relationships, anticipate implementation challenges, and refine interdisciplinary planning practices. Research on professional communities suggests that professional knowledge develops through sustained participation, mentoring, shared inquiry, and repeated opportunities to examine practice (Hargreaves & Fullan, 2012; Lieberman & Miller, 2008). In this study, years of participation are treated as an indicator of implementation experience, not as a direct measure of competence or maturity. Any differences between newer and longer-serving participants are therefore interpreted as participation-related patterns rather than evidence that experience necessarily caused better implementation.

Teachers' perceptions are especially relevant in evaluating implementation because teachers operate at the point where curricular intentions are converted into instructional decisions. They can report whether objectives were clear, planning arrangements were workable, collaboration occurred, and intended practices were visible. Their accounts can also reveal implementation barriers that may not appear in program documents, including compressed timelines, overlapping activities, resource limitations, and uneven participation. At the same time, perception data have important limitations. Positive ratings do not establish that students achieved measurable gains, and respondents may be influenced by institutional loyalty, social desirability, role expectations, or their personal investment in the program. Measures of perceived outcomes must therefore be presented as evidence of stakeholder judgment rather than direct evidence of causal impact. Strong program evaluation requires a clear distinction between what teachers observed or believed and what could be demonstrated through independent learner-performance measures, classroom observations, or comparative designs.

Mixed-methods evaluation is useful in addressing some of these limitations because numerical ratings and narrative accounts answer different but complementary questions. Quantitative data can describe the consistency of implementation ratings, compare groups, assess the reliability of survey domains, and examine relationships among planning, collaboration, and perceived outcomes. Open-ended responses can clarify why certain aspects were rated more or less favorably and identify conditions that structured teachers' experiences. Integration occurs when the qualitative findings are used to explain, qualify, or expand the quantitative patterns rather than being presented as an unrelated supplement (Creswell & Plano Clark, 2018). In an institutional setting, this form of analysis is particularly

valuable because a modest difference in a mean score may become practically meaningful when teachers repeatedly identify the same scheduling, coordination, or resource concern in their written responses.

The present investigation concerns the Schematic Webbing Program of the Integrated School of La Consolacion College Bacolod. The program was developed as a school-based approach to interdisciplinary learning across Preschool, Elementary, and Junior High School. Using a central theme and schematic webs, teachers identify connections among subject areas, coordinate learning activities, and develop integrated outputs intended to support authentic learning and the institution's graduate attributes. In November 2025, teachers who had participated in the program completed an internal evaluation covering program planning and integration, implementation and collaboration, and perceived outcomes and impact. The instrument also invited written comments on the program's strengths, implementation challenges, suggested improvements, and continuation. Because the information was initially gathered for internal quality improvement rather than for a prospective research project, the current investigation treats it as secondary institutional evaluation data.

The original evaluation indicated generally favorable views of the program, but a simple conclusion that the initiative was "effective" would underuse the data and overstate what a cross-sectional teacher survey can establish. More analytically important questions concern how the program was being sustained, whether teachers with longer participation reported different experiences from newer participants, how collaborative practice related to perceived outcomes, and which logistical conditions enabled or constrained implementation. These concerns are particularly relevant because the raw data include participants with different grade-level assignments and lengths of involvement, as well as narrative responses capable of explaining the quantitative ratings. Reanalyzing the dataset through an implementation lens shifts attention from program approval alone toward the processes through which interdisciplinary practice becomes—or fails to become—a stable component of institutional life.

Existing literature provides substantial discussion of integrated curriculum, teacher collaboration, project-based learning, and barriers associated with planning time and school organization. However, fewer institutionally grounded studies examine how these factors operate together within a recurring, locally developed interdisciplinary curriculum initiative. Much of the available research emphasizes instructional benefits, teacher attitudes, or isolated implementation barriers, while giving less attention to how differences in participation experience, collaborative routines, and logistical conditions are reflected in internal program-evaluation data. There is also a need for studies that distinguish teacher-perceived outcomes from independently verified learner effects. A secondary mixed-methods analysis can address this need by examining not only whether teachers rated the program favorably, but also how implementation experience and organizational conditions shaped their evaluations.

Accordingly, this study conducted a secondary mixed-methods implementation evaluation of the Schematic Webbing Program, focusing on implementation experience, collaborative practice, logistical conditions, and teacher-perceived outcomes. Specifically, it examined the perceived extent of program planning and integration, implementation and collaboration, and perceived outcomes and impact; assessed the internal consistency of the evaluation domains; tested whether evaluations differed according to grade-level assignment and length of participation; examined associations among the implementation domains; and analyzed teachers' written accounts of enabling conditions, barriers, and improvement priorities. By integrating numerical patterns with qualitative explanations, the study sought to generate institutionally useful evidence for sustaining and improving interdisciplinary curriculum implementation.

Research Questions

This study addressed the following questions:

1. What is the perceived extent of implementation of the Schematic Webbing Program in terms of:
   1.1 Program Planning and Integration;
   1.2 Implementation and Collaboration; and
   1.3 Perceived Outcomes and Impact?
2. How internally consistent are the three evaluation domains and the overall instrument?

3. Do teachers' evaluations differ according to:
   3.1 grade-level assignment; and
   3.2 length of participation in the program?
4. What relationships exist among Program Planning and Integration, Implementation and Collaboration, and Perceived Outcomes and Impact?
5. What enabling conditions, implementation barriers, and improvement priorities emerge from teachers' written responses?
6. How do the qualitative findings explain or qualify the quantitative results?

Methodology

Research Design

The study employed a retrospective secondary mixed-methods implementation evaluation to examine implementation experience, collaborative practice, logistical conditions, and teacher-perceived outcomes associated with the Schematic Webbing Program. It involved the secondary analysis of quantitative ratings and qualitative comments originally collected through an institutional program evaluation in November 2025. A convergent mixed-methods orientation was used because the closed-ended and open-ended responses were collected through the same survey and analyzed as complementary sources of evidence. The quantitative component described perceived implementation, assessed internal consistency, examined subgroup variations, and determined associations among the evaluation domains. The qualitative component identified enabling conditions, implementation barriers, and improvement priorities. The findings were integrated to determine how the written responses explained, qualified, or expanded the numerical patterns (Creswell & Plano Clark, 2018).

The study was specifically framed as an implementation evaluation rather than an impact or effectiveness study. The data represented teachers' perceptions at one point in time and did not include baseline measures, a comparison group, classroom observations, or direct measures of student achievement. Consequently, the analysis did not seek to establish that the program caused improvements in student learning. Instead, it examined the extent to which the intended program components were perceived to be evident, how these perceptions varied according to teachers' implementation experience, and what organizational conditions appeared to support or constrain the program's sustainability and continuing implementation.

Research Locale

The study was conducted at the Integrated School of La Consolacion College Bacolod, a private Catholic educational institution in Bacolod City, Philippines. The Integrated School comprises Preschool, Elementary, and Junior High School levels. The Schematic Webbing Program was implemented as a school-based interdisciplinary curriculum initiative in which teachers used a common theme and schematic webs to identify connections among learning areas, coordinate instructional activities, and develop integrated student outputs. The program was also intended to connect classroom learning with the institution's graduate attributes, including competence, compassion, and commitment. Because the initiative required coordination across subjects and grade levels, the Integrated School provided an appropriate setting for examining collaborative curriculum implementation, institutional support, implementation experience, and logistical conditions.

Participants, Sample Size, and Sampling Technique

The archived dataset contained 33 valid responses from the 33 teachers eligible to participate in the internal evaluation, yielding a 100% response rate. Of the respondents, 19 taught at the Secondary level, 12 at the Elementary level, and two at the Preschool level. In terms of participation experience, 25 teachers had been involved in the program for three years or more, while eight had participated for one to two years. The original evaluation employed total enumeration because all teachers directly involved in planning, implementing, or assessing the Schematic Webbing Program were invited to participate.

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE
Published by: RISEJOURNALS.ORG | Online ISSN: 3028-032X | Print ISSN: 3028-0370
VOLUME 4, ISSUE NO. 8

For subgroup analysis, Preschool and Elementary respondents were combined because the Preschool subgroup contained only two teachers and could not support a meaningful independent comparison. The resulting grade-level comparison involved Secondary teachers and a combined Elementary–Preschool group. The imbalance between the participation groups—25 teachers with at least three years of involvement and eight with one to two years—was considered in selecting nonparametric statistical procedures and in interpreting the results cautiously. The findings were treated as institution-specific and were not assumed to be statistically generalizable to teachers in other schools.

Research Instrument

The original data were gathered using a researcher-developed online questionnaire administered through Google Forms. The instrument contained respondent-profile questions, 15 closed-ended evaluation statements, and five open-ended questions. The closed-ended statements were organized into three domains, with five items in each domain:

1. Program Planning and Integration, which covered the communication of program objectives, alignment of the central theme with institutional graduate attributes, interdisciplinary lesson planning, adequacy of preparation time, and administrative or coordinator support;
2. Implementation and Collaboration, which examined cross-subject teacher collaboration, students' recognition of connections among subjects, opportunities for creativity and critical thinking, enrichment of learning through subject integration, and authentic or real-world learning; and
3. Perceived Outcomes and Impact, which assessed perceived improvements in teachers' interdisciplinary lesson-design ability, student engagement, alignment of projects with graduate attributes, collaboration across grade levels, and the program's perceived contribution to learners' overall development.

Responses were recorded using a five-point Likert-type scale: 1 = Not Evident, 2 = Slightly Evident, 3 = Moderately Evident, 4 = Evident, and 5 = Highly Evident. The open-ended questions asked respondents to identify aspects of the program that worked well, challenges encountered during planning or implementation, recommended improvements, views on whether the program should continue, and additional comments or suggestions. These narrative items provided contextual information that could not be captured adequately through numerical ratings alone.

Validity and Reliability of the Instrument

Before its use in the internal evaluation, the instrument underwent expert review by educators with relevant experience in integrated curriculum design, interdisciplinary instruction, and basic education program implementation. The review focused on the relevance, clarity, wording, and alignment of the statements with the intended evaluation domains. Revisions were made to improve item phrasing and correspondence with the program's institutional and pedagogical objectives. Expert review is a recognized method for establishing evidence of content relevance and representativeness in researcher-developed instruments (Polit & Beck, 2006). The instrument is therefore described as having undergone expert review for content relevance, clarity, and alignment. The study does not claim that content validity was established quantitatively or that the instrument had undergone full psychometric validation.

Internal consistency was reassessed using the archived responses. Cronbach's alpha was .925 for Program Planning and Integration, .963 for Implementation and Collaboration, .967 for Perceived Outcomes and Impact, and .976 for the complete 15-item instrument. These coefficients indicated excellent internal consistency within the present institutional sample. Nevertheless, the exceptionally high coefficients, particularly for the overall scale, were interpreted with some caution because alpha values approaching 1.00 may also indicate substantial similarity or redundancy among items (Tavakol & Dennick, 2011). The reliability estimates therefore supported the use of composite domain scores in the present analysis but were not treated as evidence that the instrument's factor structure had been conclusively established. Factor analysis was not undertaken because the sample of 33 respondents was insufficient for a defensible exploratory or confirmatory factor analysis.

Data-Gathering and Data-Preparation Procedures

The original survey was administered through Google Forms from November 7 to November 28, 2025, as an internal quality-assurance and program-evaluation activity. All teachers involved in the most recent implementation of the Schematic Webbing Program were invited to provide ratings and written observations voluntarily. Responses were automatically recorded in a spreadsheet and retained as part of the institution's program-evaluation records. Before publication-oriented secondary analysis was undertaken, institutional authorization was obtained, the applicability of the ethics exemption was confirmed, and the archived dataset was de-identified and reviewed for completeness.

The quantitative items were grouped according to the three predetermined evaluation domains. Composite scores were calculated as the mean of the five items within each domain, while the overall implementation score was obtained from the mean of all 15 items. The open-ended responses were separated from identifying information and organized according to the corresponding survey questions. Data cleaning included checking for missing values, invalid numerical entries, duplicate records, and inconsistencies in categorical responses. No quantitative item-level responses were missing among the 33 valid cases.

Statistical Treatment of Quantitative Data

Descriptive and nonparametric inferential statistics were used. Frequencies and percentages were computed to describe the respondents according to grade-level assignment and years of participation. For the individual items and composite domains, the analysis included the mean, standard deviation, median, interquartile range, and response-category distributions. Although means were retained to facilitate interpretation within the original five-point evaluation framework, medians and interquartile ranges were also examined because Likert responses are ordinal and the dataset showed a concentration of scores at the upper end of the scale (Boone & Boone, 2012).

Cronbach's alpha was calculated for each of the three domains and for the overall instrument to assess internal consistency. Because of the small sample, unequal subgroup sizes, ordinal response scale, and non-normal concentration of ratings, the Mann–Whitney U test was used to examine differences in composite scores between Secondary and Elementary–Preschool teachers and between teachers with three years or more of participation and those with one to two years of participation. Rank-biserial correlation was reported as the effect-size measure for the Mann–Whitney comparisons. Subgroup findings were interpreted in relation to both statistical significance and effect magnitude rather than solely on differences in arithmetic means. Because the evaluation covered all 33 eligible teachers, the subgroup analyses were used to examine the strength and consistency of patterns within the institution rather than to estimate population parameters beyond La Consolacion College Bacolod.

Spearman's rank-order correlation coefficient was used to examine the associations among Program Planning and Integration, Implementation and Collaboration, and Perceived Outcomes and Impact. Spearman's rho was selected because it does not require normally distributed interval-level data and was appropriate for the ordinally derived composite scores and small sample. All inferential tests were two-tailed, with the initial level of statistical significance set at $\alpha = .05$. Because four comparisons were conducted within each subgroup-analysis family, Bonferroni adjustment was considered separately for the grade-level and years-of-participation comparisons, resulting in an adjusted significance threshold of $p < .0125$ for each family. Because the data were cross-sectional and based on common-source self-reports, statistically significant associations were not interpreted as causal relationships.

Quantitative analyses were conducted using JASP version 0.19.3.0. JASP output files and analytical records were retained for verification.

Qualitative Data Analysis and Mixed-Methods Integration

The written responses were analyzed using qualitative content analysis. The responses were first read repeatedly to identify recurring ideas related to enabling conditions, implementation challenges, recommendations, and continuation of the program. Meaningful statements were assigned preliminary codes, after which similar codes were grouped into broader categories, including collaborative practice, interdisciplinary coherence, student engagement, preparation time, scheduling and coordination, resource availability, teacher capacity-building, and developmental appropriateness. Frequencies referred to the number of respondents whose answers contained a particular category, and a respondent could contribute to more than one category. The coding matrix retained the original response, assigned code, broader category, and researcher note to provide an audit trail. One researcher conducted the initial

coding, after which the categories and coded excerpts were reviewed by another member of the research team for consistency and grounding in the original responses.

Qualitative content analysis was considered more appropriate than phenomenology or grounded theory because the responses were generally brief and were elicited through open-ended survey questions rather than through extended interviews. The analysis sought to identify recurring institutional and implementation concerns rather than claim theoretical saturation or provide an exhaustive account of teachers' lived experiences.

The quantitative and qualitative findings were integrated during interpretation through a **weaving approach**, in which narrative findings were presented alongside the numerical results they helped explain. For example, teachers' comments concerning insufficient preparation time and competing institutional activities were used to contextualize the comparatively lower rating for schedule and preparation adequacy. Likewise, written accounts of cross-subject coordination and shared student tasks were examined alongside the high ratings for implementation and collaboration. Convergence, complementarity, and areas of tension between the two data strands were identified to produce a more complete implementation evaluation than either form of evidence could provide independently (Creswell & Plano Clark, 2018).

Ethical Considerations

The original survey was conducted as an internal program-evaluation and quality-assurance activity. An exemption was issued by the Institutional Ethics Review Board on November 21, 2025, under Certificate No. 202526-118. Before publication-oriented secondary analysis was undertaken, the researchers confirmed institutional authorization to use the archived evaluation data. The study involved no recontacting of participants, no collection of additional personal information, and no intervention beyond the analysis of existing records. The exemption covered the use of the internal evaluation data for secondary research analysis and publication.

Confidentiality and data minimization were observed throughout the secondary analysis. Names, email addresses, and other direct identifiers contained in the original Google Forms file were removed before statistical and qualitative analysis. Respondents were assigned nonidentifying codes, and findings were presented in aggregate form. Qualitative excerpts were used only when they could not reasonably identify individual teachers. Access to the identifiable source file was restricted to authorized researchers, while the de-identified analytical dataset was stored securely. The study also distinguished teacher-perceived outcomes from independently verified learner outcomes to avoid overstating the evidentiary scope of the data.

Results

The secondary analysis included 33 valid teacher responses from the November 2025 internal evaluation of the Schematic Webbing Program. Nineteen respondents (57.6%) taught at the Secondary level, 12 (36.4%) at the Elementary level, and two (6.1%) at the Preschool level. In terms of program participation, 25 teachers (75.8%) had been involved in the program for three years or more, six (18.2%) for one year, and two (6.1%) for two years. For comparative analysis, the one- and two-year categories were combined, while Elementary and Preschool respondents were grouped because the Preschool subgroup contained only two teachers.

Internal Consistency of the Evaluation Domains

The three evaluation domains demonstrated high internal consistency. Cronbach's alpha was .925 for Program Planning and Integration, .963 for Implementation and Collaboration, and .967 for Perceived Outcomes and Impact. The complete 15-item instrument produced an alpha coefficient of .976.

These coefficients supported the use of composite domain scores. However, the particularly high alpha values also suggested substantial similarity among the items. The results were therefore treated as evidence of internal consistency within the present sample rather than confirmation of a definitive multidimensional factor structure.

Table 1
Internal Consistency of the Schematic Webbing Program Evaluation Scale

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE
Published by: RISEJOURNALS.ORG | Online ISSN: 3028-032X | Print ISSN: 3028-0370
VOLUME 4, ISSUE NO. 8

Evaluation domain	Number of items	Cronbach's α
Program Planning and Integration	5	.925
Implementation and Collaboration	5	.963
Perceived Outcomes and Impact	5	.967
Overall implementation scale	**15**	**.976**

Overall Evaluation of Program Implementation

Teachers generally perceived the intended components of the Schematic Webbing Program as evident in practice. The overall implementation score was 4.42 (SD = 0.58), with a median of 4.73 and an interquartile range of 4.00 to 5.00. Among the three domains, Perceived Outcomes and Impact obtained the highest mean of 4.47 (SD = 0.59), followed closely by Implementation and Collaboration at 4.46 (SD = 0.56). Program Planning and Integration received the comparatively lowest mean of 4.33 (SD = 0.66), although it remained within the "Evident" range.

Ratings were concentrated at the upper end of the scale. No respondent selected a rating below 3 for any quantitative item, and the third quartile was 5.00 across all domains. This pattern indicated restricted variability and a possible ceiling effect.

Table 2
Descriptive Statistics for the Evaluation Domains

Evaluation domain	Mean	SD	Median	Q1	Q3	Interpretation
Program Planning and Integration	4.33	0.66	4.40	4.00	5.00	Evident
Implementation and Collaboration	4.46	0.56	4.60	4.00	5.00	Evident
Perceived Outcomes and Impact	4.47	0.59	4.80	4.00	5.00	Evident
Overall implementation	**4.42**	**0.58**	**4.73**	**4.00**	**5.00**	**Evident**

Program Planning and Integration

The item-level results for Program Planning and Integration are presented in Table 3. The highest-rated indicator was the alignment of the central theme with the school's Institutional Graduate Attributes (M = 4.42, SD = 0.71). This was followed by the clarity with which program objectives were communicated to teachers (M = 4.36, SD = 0.74). Interdisciplinary lesson planning and support from subject-area coordinators and administrators both obtained means of 4.33.

The lowest-rated item in the domain was the sufficiency of the schedule and timeframe for preparation (M = 4.21, SD = 0.82). It also had the largest standard deviation among the planning indicators, suggesting greater variation in teachers' experiences of the time available for preparation.

Table 3
Teachers' Evaluation of Program Planning and Integration

Indicator	Mean	SD	Median	Interpretation
Program objectives were clearly communicated.	4.36	0.74	5.00	Evident

The central theme reflected the Institutional Graduate Attributes.	4.42	0.71	5.00	Evident
Lesson planning allowed interdisciplinary collaboration.	4.33	0.74	4.00	Evident
The schedule and timeframe were sufficient for preparation.	4.21	0.82	4.00	Evident
Adequate coordinator and administrative support was available.	4.33	0.74	4.00	Evident
Domain composite	**4.33**	**0.66**	**4.40**	**Evident**

The results indicated that planning structures were generally viewed positively, but preparation time represented the comparatively weakest component of the domain.

Implementation and Collaboration

Implementation and Collaboration obtained a composite mean of 4.46 (SD = 0.56). The highest-rated indicator was the enrichment of students' learning experiences through subject integration (M = 4.55, SD = 0.56), which fell within the "Highly Evident" range. Teachers also rated students' understanding of subject interconnectedness, activities encouraging creativity and critical thinking, and projects promoting authentic learning at 4.45.

Collaboration among teachers across subjects obtained a slightly lower mean of 4.39 (SD = 0.66), although it remained positively evaluated.

Table 4
Teachers' Evaluation of Implementation and Collaboration

Indicator	Mean	SD	Median	Interpretation
Collaboration among teachers across subjects was effectively carried out.	4.39	0.66	4.00	Evident
Students understood the interconnectedness of subjects.	4.45	0.56	4.00	Evident
Activities encouraged creativity and critical thinking.	4.45	0.62	5.00	Evident
Subject integration enriched students' learning experiences.	4.55	0.56	5.00	Highly Evident
Projects promoted authentic, real-world learning.	4.45	0.62	5.00	Evident
Domain composite	**4.46**	**0.56**	**4.60**	**Evident**

The pattern showed that teachers viewed the integration of subject content and learning activities as a major implementation strength.

Perceived Outcomes and Impact

Perceived Outcomes and Impact obtained the highest composite mean of 4.47 (SD = 0.59). The strongest indicator was the perceived contribution of the program to learners' overall development (M = 4.55, SD = 0.56), interpreted as "Highly Evident." The remaining four indicators each obtained a mean of 4.45.

Table 5
Teachers' Evaluation of Perceived Outcomes and Impact

Indicator	Mean	SD	Median	Interpretation

The program enhanced teachers' ability to design interdisciplinary lessons.	4.45	0.67	5.00	Evident
Students showed improved engagement and participation.	4.45	0.67	5.00	Evident
Projects reflected the intended graduate attributes.	4.45	0.62	5.00	Evident
The program fostered collaboration across grade levels.	4.45	0.62	5.00	Evident
Program outcomes contributed to learners' overall development.	4.55	0.56	5.00	Highly Evident
Domain composite	**4.47**	**0.59**	**4.80**	**Evident**

These findings represented teacher-perceived outcomes and did not constitute direct evidence of changes in student achievement or development.

Differences According to Grade-Level Assignment

Mann–Whitney U tests were conducted to compare Secondary teachers with the combined Elementary–Preschool group. No statistically significant differences were found in Program Planning and Integration, U = 124.50, p = .765; Implementation and Collaboration, U = 125.50, p = .786; Perceived Outcomes and Impact, U = 116.00, p = .517; or Overall Implementation, U = 124.50, p = .767.

The effect sizes ranged from −.06 to .13, indicating negligible differences between the two grade-level groups. The program was therefore evaluated consistently across the instructional levels represented in the sample.

Table 6
Comparison of Evaluation Scores by Grade-Level Assignment

Evaluation domain	Secondary, n = 19 Mdn	Elementary–Preschool, n = 14 Mdn	U	p	Rank-biserial r
Program Planning and Integration	4.40	4.70	124.50	.765	−.06
Implementation and Collaboration	4.60	4.60	125.50	.786	−.06
Perceived Outcomes and Impact	5.00	4.70	116.00	.517	.13
Overall implementation	**4.73**	**4.60**	**124.50**	**.767**	**−.06**

Differences According to Years of Participation

Teachers with three years or more of participation reported higher scores than those with one to two years of participation across all domains. For Program Planning and Integration, the more experienced group had a mean of 4.49 and a median of 4.80, compared with a mean of 3.85 and a median of 4.00 among newer participants. The difference was statistically significant using the unadjusted test, U = 43.50, p = .016, with a rank-biserial correlation of .57.

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE
Published by: RISEJOURNALS.ORG | Online ISSN: 3028-032X | Print ISSN: 3028-0370
VOLUME 4, ISSUE NO. 8

Implementation and Collaboration was also rated more highly by the experienced group, U = 54.50, p = .044, r_{rb} = .46. The largest domain difference was observed for Perceived Outcomes and Impact, U = 42.00, p = .009, r_{rb}= .58. The overall implementation score likewise differed significantly, U = 40.00, p = .011, r_{rb} = .60.

Table 7
Comparison of Evaluation Scores by Years of Program Participation

Evaluation domain	Three years or more, n = 25 M (Mdn)	One to two years, n = 8 M (Mdn)	U	Unadjusted p	Rank-biserial r
Program Planning and Integration	4.49 (4.80)	3.85 (4.00)	43.50	.016	.57
Implementation and Collaboration	4.57 (5.00)	4.13 (4.00)	54.50	.044	.46
Perceived Outcomes and Impact	4.62 (5.00)	4.03 (4.00)	42.00	.009	.58
Overall implementation	**4.56 (4.80)**	**4.00 (3.97)**	**40.00**	**.011**	**.60**

Using unadjusted two-tailed tests, all four comparisons were statistically significant at p < .05. However, because four related comparisons were conducted, a Bonferroni-adjusted significance threshold of p < .0125 was also considered. Under this more conservative criterion, the differences remained statistically significant for Perceived Outcomes and Impact and for Overall Implementation, while the differences in Program Planning and Integration and Implementation and Collaboration did not retain statistical significance.

The effect sizes ranged from moderate to large, indicating meaningful differences favoring teachers with longer program participation. These findings indicated a participation-related pattern consistent with greater familiarity and accumulated implementation experience.

Relationships Among the Evaluation Domains

Spearman rank-order correlations showed strong positive associations among the three domains. Program Planning and Integration was strongly associated with Implementation and Collaboration, r_s = .863, p < .001, and with Perceived Outcomes and Impact, r_s = .791, p < .001. Implementation and Collaboration had the strongest association with Perceived Outcomes and Impact, r_s = .883, p < .001.

Teachers who reported stronger planning, communication, and institutional support also tended to report stronger collaborative implementation and more favorable perceived outcomes. However, the associations should be interpreted cautiously because all domains were measured through the same instrument, and the very high reliability coefficients suggested possible item overlap and common-method variance.

Table 8
Spearman Correlations Among the Evaluation Domains

Evaluation domain	1	2	3
1. Program Planning and Integration	—		
2. Implementation and Collaboration	.863***	—	
3. Perceived Outcomes and Impact	.791***	.883***	—

Note. N = 33. ***p < .001.

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE
Published by: RISEJOURNALS.ORG | Online ISSN: 3028-032X | Print ISSN: 3028-0370
VOLUME 4, ISSUE NO. 8

Qualitative Findings

The qualitative content analysis generated four interconnected categories: collaborative practice and interdisciplinary coherence, perceived benefits for students and teachers, logistical constraints, and priorities for institutional improvement.

Collaborative Practice and Interdisciplinary Coherence

Collaboration emerged as the most frequently identified strength of the program. Teachers described the initiative as promoting coordination among subject areas, teamwork among faculty members, and cooperation among students. Several respondents emphasized that the integration of subjects enabled teachers to develop unified activities or outputs rather than requiring separate tasks for each learning area.

The responses suggested that collaboration occurred at both the teacher and student levels. Teachers referred to collaborative planning, shared instructional goals, and coordination across subjects. They also described the program as encouraging student teamwork, peer interaction, and participation in common projects. These findings complemented the favorable quantitative ratings for subject integration and collaborative implementation.

Student Engagement, Creativity, and Conceptual Connection

Teachers also identified student engagement, creativity, confidence, and conceptual understanding as important strengths. Respondents observed that schematic webbing helped students organize ideas visually, recognize relationships among concepts, and connect learning across subjects. Some described the activities as more interactive, meaningful, and student-centered than isolated subject tasks.

These observations supported the favorable quantitative ratings for creativity and critical thinking, authentic learning, student engagement, and learners' overall development. However, they remained teacher-reported observations rather than direct measures of student performance.

Time, Scheduling, and Coordination Constraints

Limited preparation time was the most frequently reported challenge. Seventeen of the 33 respondents, or 51.5%, explicitly mentioned preparation time, short timelines, scheduling, overlapping institutional activities, or insufficient time for collaborative planning.

Teachers described difficulty coordinating schedules across subject areas, preparing materials, developing integrated activities, and providing students with adequate time to complete or practice outputs. Other concerns included limited resources, differences in student readiness, uneven participation, and challenges in aligning activities closely with lesson objectives.

The qualitative findings were consistent with the quantitative results, in which the sufficiency of the schedule and timeframe received the lowest item mean in the Program Planning and Integration domain.

Priorities for Institutional Improvement

The most common recommendation was to provide more time for planning and preparation. Teachers suggested earlier release of themes, guidelines, and rubrics; dedicated collaborative planning periods; clearer schedules; and better alignment with the institutional calendar to avoid conflicts with other activities.

Other recommendations included additional teacher training, sharing of effective practices, stronger coordination among departments, more student preparation time, improved access to materials and facilities, and the development of clearer or more unified assessment procedures. Some respondents proposed integrating schematic webbing with major institutional events or using common outputs that could be assessed across several subject areas.

Support for Program Continuation

Twenty-seven of the 33 respondents (81.8%) explicitly supported continuation, including those who recommended continuation subject to improved planning. One respondent was uncertain, one did not support continuation, two left the item blank, and two did not provide a classifiable recommendation.

Supportive responses associated continuation with collaboration, creativity, engagement, higher-order thinking, and more meaningful connections across subject areas. Several positive recommendations were nevertheless qualified by calls for improved scheduling, longer preparation time, and clearer coordination.

Integration of Quantitative and Qualitative Findings

The quantitative and qualitative findings converged in three principal areas. First, collaboration and subject integration were consistently identified as central strengths. High ratings for Implementation and Collaboration were supported by repeated descriptions of cross-subject coordination, unified activities, and teacher and student teamwork.

Second, teachers reported favorable outcomes related to engagement, creativity, conceptual connection, and holistic learner development. These perceptions corresponded with the high ratings for Perceived Outcomes and Impact, although the study did not independently verify changes in student achievement.

Third, preparation time and scheduling emerged as the clearest implementation constraint. The schedule and timeframe item received the lowest quantitative mean, while more than half of the respondents explicitly mentioned time- or scheduling-related difficulties in their written responses.

The subgroup findings further indicated a participation-related pattern, with teachers who had longer involvement reporting more favorable evaluations of perceived outcomes and overall implementation. Taken together, the results portrayed a program that was broadly accepted and supported by recurring collaborative instructional practices. Its sustainability, however, depended on stronger logistical support, protected planning time, clearer coordination, and continuing capacity-building, particularly for teachers with less implementation experience.

Discussion

The findings indicate that teachers generally perceived the Schematic Webbing Program as a positively functioning and recurring interdisciplinary curriculum initiative. Ratings across Program Planning and Integration, Implementation and Collaboration, and Perceived Outcomes and Impact fell within the "Evident" range. This suggests that teachers recognized coherence among the program's objectives, collaborative processes, and intended instructional outcomes. However, the study did not directly measure formal policy integration, budgetary support, leadership continuity, or other structural indicators ordinarily associated with full institutionalization. The results therefore provide evidence of program acceptance and recurring implementation rather than conclusive evidence that the initiative had become fully institutionalized.

The comparatively strong ratings for Implementation and Collaboration point to interdisciplinary coordination as one of the program's central strengths. Teachers reported that subject integration enriched learning experiences, promoted authentic tasks, and encouraged creativity and critical thinking. The qualitative responses reinforced this interpretation by describing shared planning, unified activities, and collaboration among both teachers and students. These findings are consistent with the principle that meaningful curriculum integration depends on more than placing

several subjects under one theme. It requires teachers to clarify how different disciplines contribute to a common learning experience and to coordinate the timing, content, and assessment of those contributions (Fogarty, 1991; Jacobs, 1989). The positive evaluations therefore suggest that schematic webbing had developed beyond a purely visual planning device and had become a mechanism for organizing collective instructional work.

Collaboration, however, should not be interpreted as automatically deep or uniformly experienced. Although teacher collaboration was rated favorably, it received a slightly lower mean than the item concerning enrichment of student learning through subject integration. This distinction may indicate that teachers perceived the outcomes of integration more strongly than the process of coordinating with colleagues. Collaborative professionalism requires sustained co-planning, shared decision-making, mutual responsibility, and opportunities to examine practice together, rather than occasional cooperation around a common event (Hargreaves & O'Connor, 2018). The written responses also referred to scheduling difficulties and limited opportunities for joint planning. Thus, the program appears to have established a collaborative orientation, but the organizational conditions needed for consistently deep collaboration may still require strengthening.

The results for Program Planning and Integration reveal a combination of program stability and logistical tension. Teachers generally affirmed the clarity of objectives, alignment with institutional graduate attributes, and availability of administrative support. These findings suggest that the program had recognizable goals and recurring organizational support. Such features are relevant to program sustainability because educational innovations are more likely to continue when they are supported by clear expectations, leadership endorsement, and regular implementation routines (Fitzpatrick et al., 2011; Fullan, 2015). Nevertheless, the survey did not directly examine formal policy adoption, dedicated budgets, leadership continuity, or incorporation into institutional accountability systems. The findings should therefore be interpreted as evidence of selected conditions associated with institutionalization, not as proof that the program had become fully embedded in institutional structures.

Preparation time emerged as the most persistent structural constraint. Teachers described compressed timelines, difficulty coordinating across subjects, insufficient time to prepare materials, and conflicts with other school activities. These concerns reflect a common implementation problem in interdisciplinary curriculum work. Integrated instruction increases the need for communication, alignment, and negotiation among teachers, which can make planning more demanding than subject-isolated instruction (Margot & Kettler, 2019; Park, 2008). When common planning time is limited, teachers may still complete the required activities, but the depth of integration, quality of assessment, and developmental appropriateness of tasks may be compromised. The present findings therefore suggest that the program's main challenge was not resistance to its pedagogical purpose but the mismatch between its collaborative demands and the time structures available for implementation.

The Perceived Outcomes and Impact domain received the highest overall mean, with particularly favorable ratings for the program's contribution to learners' overall development. Teachers also described greater engagement, creativity, confidence, conceptual connection, and meaningful participation. These perceptions are consistent with research suggesting that integrated and thematic learning can help students recognize relationships among ideas, apply knowledge across contexts, and engage in more authentic learning experiences (Gresnigt et al., 2014; Puspita et al., 2020). Visual and thematic organization may also support learners in seeing connections that are less apparent in compartmentalized instruction. However, the present study measured teacher judgments rather than direct student outcomes. It cannot determine whether the program produced measurable gains in achievement, critical thinking, creativity, or long-term development. The findings should therefore be understood as evidence of perceived educational value and implementation promise, not causal impact.

The absence of statistically significant differences between Secondary and Elementary–Preschool teachers suggests that the program was evaluated similarly across grade-level groupings. This consistency may indicate that the basic structure of schematic webbing was sufficiently adaptable for different developmental levels. The qualitative responses, however, imply that implementation may not be identical across those levels. Younger learners may require simpler thematic connections, more concrete tasks, greater scaffolding, and longer preparation periods. Integrated curriculum models can be applied across age groups, but their design must remain sensitive to developmental readiness and disciplinary demands (Drake & Burns, 2004; Fogarty, 1991). The lack of a statistically significant grade-level difference should therefore not be interpreted as evidence that one uniform implementation

model is equally appropriate for all learners. Rather, it supports continued use of the program alongside differentiated task design and support.

The most notable quantitative finding concerned length of participation. Teachers with three years or more of involvement reported more favorable evaluations than those with one to two years of experience, particularly for Perceived Outcomes and Impact and Overall Implementation after adjustment for multiple comparisons. The moderate-to-large effect sizes suggest that these participation-related differences were practically meaningful within the sample. Repeated involvement may have allowed teachers to become more familiar with program procedures, develop collaborative routines, and anticipate logistical demands. This interpretation is consistent with research showing that professional knowledge can develop through sustained participation, mentoring, and shared practice (Hargreaves & Fullan, 2012; Lieberman & Miller, 2008). However, years of participation were not a direct measure of competence or implementation maturity. The results are therefore best described as a pattern associated with implementation experience.

Nevertheless, longer participation cannot be assumed to have caused the more favorable ratings. Experienced participants may have held stronger prior commitment to the program, had greater access to leadership support, or occupied roles that gave them more influence over implementation. Newer participants may also have been more sensitive to unclear procedures or time demands because they had not yet developed established routines. The results therefore support an association between implementation experience and more favorable perceptions, but not a causal conclusion. The finding nonetheless has practical importance: newer teachers may benefit from structured induction, mentoring, shared exemplars, co-planning opportunities, and access to experienced colleagues. Program sustainability is strengthened when implementation knowledge is deliberately transferred rather than left to informal trial and error.

The strong positive correlations among planning, collaborative implementation, and perceived outcomes further suggest that teachers experienced these dimensions as closely interconnected. Respondents who viewed the planning structures and institutional support more favorably also tended to report stronger collaboration and more favorable outcomes. This pattern is consistent with implementation theory, which emphasizes that educational innovations depend on interacting organizational and instructional conditions rather than a single isolated factor (Fullan, 2015). However, the correlations were based on the same respondents and the same survey, and the very high reliability coefficients suggest substantial overlap among the domains. Common-method variance and item similarity may therefore have inflated the observed relationships. The correlations should be treated as evidence that the dimensions were perceived together, not as proof that one directly produced another.

The qualitative findings add important depth to the quantitative results by showing how teachers understood the program's value and limitations. Collaboration, interdisciplinary coherence, and student engagement were repeatedly identified as strengths, while time, scheduling, and resource constraints were identified as barriers. This convergence strengthens the credibility of the interpretation because the lower preparation-time rating was independently echoed in written responses. The qualitative data also revealed that support for program continuation was not unqualified. Teachers generally favored sustaining the program, but many linked continuation to improved planning, clearer scheduling, training, and logistical support. This distinction is important for institutional decision-making: positive acceptance does not mean that the existing implementation arrangements should remain unchanged.

From an institutional perspective, the findings suggest that the program had achieved substantial teacher acceptance, recurring implementation, and visibility within the Integrated School. These characteristics provide a foundation for sustainability but do not by themselves demonstrate full institutionalization. The next stage of development should focus on strengthening the structures that support implementation, including protected planning periods, earlier dissemination of themes and assessment expectations, alignment with the institutional calendar, repositories of model outputs and rubrics, and mentoring arrangements for newer participants. These measures may help move the program from a recurring initiative toward more formally embedded and sustainable practice.

The results also carry implications for institutional research and quality assurance. Internal evaluation data can generate more useful evidence when they move beyond satisfaction ratings and are analyzed in relation to implementation conditions, subgroup patterns, and stakeholder explanations. In this study, the combination of descriptive results, nonparametric comparisons, effect sizes, correlations, and qualitative content analysis produced

a more nuanced account than the overall mean alone. The findings identified not only that teachers evaluated the program positively but also where implementation was strongest, where it was vulnerable, and which group may need additional support. This demonstrates the value of secondary analysis in transforming routine institutional data into evidence for organizational learning, provided that the limits of the data are clearly acknowledged.

Several limitations should be considered. First, although the evaluation covered the full eligible teacher population of the institution, the small, single-school dataset limits the applicability of the findings beyond La Consolacion College Bacolod. Second, the participation groups were unequal, particularly the one-to-two-year group, which contained only eight respondents. Third, the data were cross-sectional and could not establish change over time or causal relationships. Fourth, all quantitative domains were measured through self-report in a single instrument, creating possible social desirability, institutional loyalty, and common-method biases. Fifth, the restricted upper-end distribution reduced variability and may have limited the detection of subgroup differences. Sixth, the open-ended responses were brief and could support qualitative content analysis but not a deeper phenomenological account. Finally, the study did not include classroom observations, student work, achievement data, or student and parent perspectives. Future evaluations should incorporate these forms of evidence to determine whether favorable teacher perceptions correspond with observable changes in instructional practice and learner outcomes.

Overall, the findings portray the Schematic Webbing Program as a positively received and recurring interdisciplinary initiative supported by collaborative practice and favorable teacher perceptions. Its principal strengths were the perceived coherence of subject integration, collaborative implementation, and reported benefits for student engagement and development. Its main vulnerability lay in the logistical conditions required to sustain implementation, particularly planning time, scheduling, and support for newer participants. Continued development should therefore focus on strengthening organizational support and collecting broader evidence of instructional practice and learner outcomes.

Conclusion

This secondary mixed-methods implementation evaluation found that teachers generally perceived the Schematic Webbing Program as a positively functioning interdisciplinary curriculum initiative. Program Planning and Integration, Implementation and Collaboration, and Perceived Outcomes and Impact were all evaluated favorably. The quantitative and qualitative findings consistently identified interdisciplinary collaboration, connected learning activities, and teacher-perceived student engagement as program strengths.

The findings also identified preparation time, scheduling conflicts, and coordination demands as the principal implementation constraints. These issues suggest that the program's sustainability depends not only on teacher acceptance but also on organizational structures that provide sufficient time, resources, and coordination for interdisciplinary work.

Grade-level assignment was not associated with significant differences in evaluation scores. In contrast, teachers with three years or more of participation reported more favorable evaluations than those with one to two years of experience, particularly for Perceived Outcomes and Impact and Overall Implementation after adjustment for multiple comparisons. These results indicate a participation-related pattern that may reflect greater familiarity with program routines, although the study does not establish a causal effect of experience.

The evidence supports the continuation and refinement of the Schematic Webbing Program. However, the study does not establish direct effects on student achievement or demonstrate that the program has been fully institutionalized. Future evaluation should examine formal institutional supports, classroom implementation, student work, and learner outcomes to determine whether favorable teacher perceptions correspond with sustained instructional and developmental effects.

Recommendations

1. Strengthen planning and logistical support. The school should provide protected collaborative planning time, release themes and assessment expectations earlier, and align the program schedule with examinations, school celebrations, reporting periods, and other institutional activities. A coordinated implementation calendar should be established to reduce overlap and last-minute adjustments.

2. Support teacher learning and implementation experience. A structured induction and mentoring system should be established for teachers with less experience in the program. More experienced teachers may support newer participants through co-planning, peer consultation, model lessons, and review of interdisciplinary project designs. Continuing professional development should focus on meaningful curriculum connections, common assessment practices, developmental differentiation, and authentic performance tasks.

3. Develop shared curriculum and assessment resources. The Integrated School should maintain a centralized repository of schematic webs, lesson plans, project briefs, rubrics, student exemplars, and reflective reports. Shared rubrics may be developed for integrated outputs while preserving subject-specific learning outcomes. Activities should be differentiated according to the developmental needs of Preschool, Elementary, and Secondary learners.

4. Improve monitoring and future evaluation. Future evaluations should include student surveys, classroom observations, portfolio reviews, performance-task evidence, and samples of student work. The current instrument should be reviewed for item redundancy and clearer separation of planning, collaboration, and perceived outcomes. A larger, multisite sample would permit stronger psychometric validation and broader examination of program sustainability. A regular post-implementation review should be incorporated into institutional quality-assurance processes.

References

Boone, H., & Boone, D. (2012). Analyzing Likert data. *Journal of Extension*, *50*(2). https://doi.org/10.34068/joe.50.02.48

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Drake, S. M., & Burns, R. C. (2004). *Meeting standards through integrated curriculum*. Association for Supervision and Curriculum Development.

Fitzpatrick, J. L., Sanders, J. R., & Worthen, B. R. (2011). *Program evaluation: Alternative approaches and practical guidelines* (4th ed.). Pearson.

Fogarty, R. (1991). Ten ways to integrate curriculum. *Educational Leadership*, *49*(2), 61–65.

Fullan, M. (2015). *The new meaning of educational change* (5th ed.). Teachers College Press.

Gresnigt, R., Taconis, R., Keulen, H., Gravemeijer, K., & Baartman, L. (2014). Promoting science and technology in primary education: A review of integrated curricula. *Studies in Science Education*, *50*(1), 47–84. https://doi.org/10.1080/03057267.2013.877694

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.

Hargreaves, A., & O'Connor, M. T. (2018). *Collaborative professionalism: When teaching together means learning for all*. Corwin.

Jacobs, H. H. (1989). *Interdisciplinary curriculum: Design and implementation*. Association for Supervision and Curriculum Development.

Lieberman, A., & Miller, L. (2008). *Teachers in professional communities: Improving teaching and learning*. Teachers College Press.

Margot, K. C., & Kettler, T. (2019). Teachers' perception of STEM integration and education: A systematic literature review. *International Journal of STEM Education*, *6*, 2. https://doi.org/10.1186/s40594-018-0151-2

McPhail, G. (2018). Curriculum integration in the senior secondary school: A case study in a national assessment context. *Journal of Curriculum Studies*, *50*(1), 56–76. https://doi.org/10.1080/00220272.2017.1386234

Organisation for Economic Co-operation and Development. (2020a). *Curriculum overload: A way forward*. OECD Publishing.

Organisation for Economic Co-operation and Development. (2020b). *Curriculum reform: A literature review to support effective implementation*. OECD Publishing.

Organisation for Economic Co-operation and Development. (2024). *Curriculum flexibility and autonomy: Promoting a thriving learning environment*. OECD Publishing.

Organisation for Economic Co-operation and Development. (2025). *Results from TALIS 2024: Professional relationships in school communities*. OECD Publishing.

Pang, M. F., & Marton, F. (2007). On the Paradox of Pedagogy: the relative contribution of teachers and learners to learning. *Iskolakultúra Online*, *1*, 1–28.

Park, M. (2008). Implementing Curriculum Integration: The Experiences of Korean Elementary Teachers. *Asia Pacific Education Review*, *9*(3), 308–319.

Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, *29*(5), 489–497. https://doi.org/10.1002/nur.20147

Puspita, R. D., Hoerudin, C. W., & Yudhiantara, R. (2020). Integrating thematic instruction using webbed curricula model to improve students' reading comprehension on informational text. *International Journal of Language and Literature*, *5*(2), 1–18. https://doi.org/10.29333/aje.2020.521a

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd